

# **REPORT ON HIV/AIDS IN ONTARIO**

**2006**

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## FOREWORD

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We intend to continue producing an updated HIV/AIDS surveillance report each year. The report is disseminated to public health units, community groups involved in HIV prevention and in the care of those affected by HIV/AIDS and to HIV researchers. We hope this report will continue to serve as an important resource for these groups, as well as for others, including the media, students, persons in other provinces and countries, etc. We continue to appreciate your critical comments and suggestions for future reports.

This report is available on our web site ([www.phs.utoronto.ca/ohemu](http://www.phs.utoronto.ca/ohemu)) as are updated semi-annual summaries of HIV diagnostic data posted as soon as possible after the end of each period.

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## EXECUTIVE SUMMARY

In this tenth annual Ontario HIV/AIDS Surveillance Report, we present updated information from multiple data sources as before, including HIV diagnostic data, AIDS case reports, surveillance on HIV-infected mothers and infants, uptake of HIV testing in pregnancy, HIV-related mortality, and HIV incidence based on the detuned assay. This year, we updated the HIV-related mortality to 2005; the last update was in the 2003 report which presented data to 2000. We also updated our HIV statistical model to December 2006. Finally, we added a supplement on HIV diagnoses and AIDS cases by Local Health Integration Networks (LHINs) as a supplement to respond to requests for LHIN-based data. The present report includes results that reflect several areas of particular interest and concern. Our findings clearly indicate that the HIV epidemic in Ontario has not yet stabilized.

To date, 27,621 HIV infections have been diagnosed in Ontario. The number of HIV diagnoses increased steeply from 1986 to a peak in 1990. Since then, the annual number of diagnoses gradually decreased to a low point in 2000. Beginning 2002 and subsequently, the number of new HIV increased: during the five-year period from 2001 to 2006, the number of HIV diagnoses increased 21%. Since HIV testing began, 3,895 or 15% of diagnoses were among women. However, the proportion of HIV diagnoses comprised by women has increased dramatically, from 1.8% in 1985 to 30% in 2006. The number of diagnoses in females in 2006 was 47% greater than in 2001. Although the proportion of HIV diagnoses comprised by men who have sex with men (MSM) gradually decreased over a 20-year period, from 90% when HIV testing began to about 45-50% since 1998, HIV diagnoses among MSM increased by 26% in 2006 compared to 2001. The proportion comprised by persons from HIV-endemic countries continues to increase: HIV diagnoses in this group was 31% greater in 2006 than in 2001. The relative increase among persons from HIV-endemic countries has received some attention in recent years; we prepared a situation report in 1999 which was recently updated. However, the most dramatic increase in HIV diagnoses in 2006 was among "low-risk heterosexuals", with 41% increase from 2001 to 2006. The possible causes for this latter increase are discussed in the full report.

Overall, HIV testing increased by 48% in 2006 compared to 2001; 55% of tests were among females. HIV testing in three exposure categories increased as follows: low-risk heterosexual 62%, HIV-endemic 54%, high-risk heterosexual 38% and MSM 28%.

8,421 AIDS cases have been reported in Ontario since the beginning of the epidemic. The number of reported AIDS cases decreased dramatically in the past decade following the peak of 734 cases in 1992, although the low numbers in the last three years are underestimated due to delayed reporting. After adjustment for reporting delay, AIDS incidence reached its lowest level in 2000 but increased to a higher and variable incidence in 2001 through 2006. In 2006, AIDS incidence appeared to increase 22% over the previous year with 316 cases compared to 263 in 2005. Though there is considerable uncertainty about the true AIDS incidence in 2006, it is clear that AIDS incidence has increased since it trough in 2000.

MSM accounted for 70% of AIDS cases reported to date, with a decreasing proportion since the beginning of the epidemic. The proportion of MSM remained relatively stable at about 40% from 2001 to 2006. Though 9% of all AIDS cases reported to date were among women, women comprised 26% of AIDS cases in 2006. The lower proportion of women among AIDS cases than among HIV diagnoses is likely related to the time of progression from HIV infection to AIDS.

From 1999 to 2006, prenatal HIV test uptake in Ontario increased dramatically, from 34% in the first quarter of 1999 to 89% in 2006. 297 pregnant women, including 211 diagnosed during pregnancy, were diagnosed as HIV-infected, for an overall HIV positivity rate of 0.34 per 1,000. With respect to mother-infant HIV transmission, 695 HIV-infected women who delivered in Canada have been identified to date, on giving birth to 125 HIV-infected infants. The majority of infected infants were born to mothers from HIV-endemic countries. From July 1994 to December 2006, 60 HIV-infected infants born in Ontario have been identified, indicating that prenatal HIV testing and antiretroviral prophylaxis was not systematic following the release of the results of the AIDS Clinical Trials Group (ACTG) 076 trial. After adjusting for delay in diagnosis and reducing the year-to-year variation through smoothing, the number of mother-infant HIV transmissions peaked at 10 per year in 1992-94 and decreased to about 3 per year in 2002-06.

Based on the detuned assay and adjusted for testing bias, HIV incidence over the five-year period from 2001 to 2006 was 1.19 per 100 person-years among MSM, 2.09 among MSM-IDU, 0.18 among IDUs and 0.017 among persons through heterosexual contact. We examined the trend in adjusted HIV incidence for each exposure by fitting to a line with a fixed annual percentage change. For MSM and IDU, we observed a small annual decrease of about 1%. For the heterosexual category, we observed no change. None of these three trends were of epidemiologically importance. However, for MSM-IDU, we observed an annual increase of 39% in the five-year period.

According to our statistical model, 34,941 persons in Ontario have been infected with HIV to date; 9,116 persons have died, leaving 26,356 persons living with HIV as of 2006. HIV prevalence in Ontario increased year over year since 1996. In the five years since 2001, HIV prevalence increased 38%, or 6.7% annually. This is in part related to the continued and, in some cases, increased HIV incidence as well as decreased mortality due to the introduction of highly active antiretroviral therapy (HAART). Since 2001, HIV prevalence among persons infected through heterosexual contact increased 70%, with an average annual increase of 11% and HIV prevalence among persons from HIV-endemic countries increased 72%, with an average annual increase of 11.5%. For MSM, HIV prevalence increased 31%, with an average annual increase of 5.5%; MSM remain the group most affected by the HIV epidemic in Ontario, constituting 59% of HIV-infected persons.

The increase in prevalent HIV infections in persons infected heterosexually (other than those from HIV-endemic regions) deserves comment. In the United States, the majority of AIDS cases among those infected heterosexually are non-IDU sexual partners of IDUs whereas, in Quebec, the majority of such cases are sexual partners of persons from HIV-endemic regions. It is not clear whether the increase observed in Ontario is closer to the U.S. or the Quebec pattern is related to other explanations. From a small study carried out in Toronto, we found that recently diagnosed persons infected through heterosexual contact fell into three approximately equal groups: female sex workers, persons born in Canada and persons born elsewhere. Among those born in Canada, most had sexual contact with persons from HIV-endemic countries and were not aware of their HIV risk at the time of their exposure.

We estimated the proportion of HIV-infected persons in Ontario who have been diagnosed. Overall, we estimated that 63% of HIV-infected persons knew they were infected. However, only 48% of persons infected by heterosexual transmission and 59% of HIV-infected persons from HIV-endemic countries have been diagnosed. Clearly, the large number of infected but yet undiagnosed persons represents a significant public health challenge and opportunity.



According to our HIV model, about 1,800 persons were newly infected with HIV in Ontario in 2006. Of these, half were among MSM with 900 new infections per year; incidence in this group almost doubled since the low of 460 new infections estimated for 1996. New infections in the heterosexual and HIV-endemic exposure categories experienced a somewhat different pattern, with a steady increase in incidence every year since the HIV epidemic began. These observations clearly represent a major challenge for prevention policies and programs. In contrast, we estimate 80 new infections among IDUs in 2006, about 42% of the peak annual incidence of 190 new infections in 1993.

The reasons for the increased HIV incidence among MSM observed in Ontario are complex and relate to factors associated with unprotected sexual behaviour. These factors include personal and social as well as environmental factors, including those related to the advent of HAART in the late 1990s. Given the diversity of HIV risk, HIV risk cannot be addressed by one approach to prevention; prevention programs must be tailored to specific group needs within the MSM population.

In summary, our results show that further research, including prevention research, is needed to clarify the reasons for the observed instability and to develop and maintain effective programs for both primary and secondary HIV prevention.

#### **2006 HIGHLIGHTS**

- Overall, 26,355 HIV-infected persons are living in Ontario as of 2006.
- Most affected groups by exposure category were: MSM 15,656, persons from HIV-endemic regions 4,181 and others infected by heterosexual transmission 3,715.
- We observed an 72% increase in HIV prevalence since 2001 among persons from HIV-endemic regions and 70% among others infected by heterosexual transmission.
- 30% of HIV diagnoses in 2006 were among women.
- An estimated 63% of HIV-infected persons in Ontario have been diagnosed.
- 1,800 persons were newly infected with HIV in 2006 in Ontario.
- Increases in HIV incidence were observed in the MSM, HIV-endemic and heterosexual exposure categories; among MSM, incidence almost doubled since 1996.



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## 1. INTRODUCTION

This report summarizes the HIV/AIDS epidemic in Ontario as of 2006 using several indicators. It includes data on HIV diagnoses from Ontario's voluntary HIV testing system, data on reported AIDS cases from the Ontario notifiable disease system, mother-infant HIV infection from the Canadian Pediatric AIDS Research Group, data on HIV-related mortality from the Ontario Vital Statistics Division and data on HIV incidence from Laboratory Enhancement Study. Finally, we present estimates of HIV infection in Ontario based on statistical modeling. We also added an additional section as an Appendix on HIV diagnoses and AIDS cases by Local Health Integration Networks (LHINs) to correspond an increased demands on data for LHINs.

This report was produced by the Ontario HIV Epidemiologic Monitoring Unit, established to enhance the monitoring of the HIV/AIDS epidemics in Ontario. The unit began operation in January 1997 as an initiative of the AIDS Bureau, Ontario Ministry of Health and Long-Term Care in collaboration with the Department of Public Health Sciences, University of Toronto. The current report is the ninth in a series of monographs to review and summarize what is known to date about the patterns of HIV transmission and infection in Ontario.

## 2. METHODS

Population estimates by year, sex and public health unit were obtained from the Central East Health Information Partnership and Statistics Canada for the calculation of annual incidence and mortality rates. The actual or interpolated population for the year of interest were used to calculate the annual incidence. Cumulative incidence rates were calculated using the 1996 population from census data <1> as the denominator.

Where appropriate, statistical testing was carried out using the chi-square or Fisher's exact test to compare proportions and the chi-square to test for trends over time (Epi Info v. 6.04b, 1997, Centers for Disease Control and Prevention, Atlanta, USA and World Health Organization, Geneva, Switzerland).

### 2.1 HIV diagnoses

#### 2.1.1 Data sources

HIV serodiagnostic data were obtained from the HIV Laboratory, Central Public Health Laboratory (CPHL) of the Ontario Ministry of Health and Long-Term Care for the years 1985 to 2006.

Almost all HIV diagnostic testing in the Province of Ontario is performed through the Public Health Laboratory System, Ontario Ministry of Health and Long-Term Care. However, limited HIV testing is carried out by other laboratories for the purposes of establishing eligibility for life insurance, screening organ and tissue donors and testing blood donations. Finally, Ontario residents may be tested in other provinces; persons may have either tested elsewhere before establishing residence in Ontario or traveled out of province to have an HIV test.

In Ontario, persons requesting a test from their physician or at any one of the specialized clinics established for this purpose (anonymous testing sites) are tested at no charge. Specimens are

transported to the public health laboratory system for HIV testing. Specimens are first tested by enzyme immunoassay (EIA) and, if repeatedly reactive, by supplemental and confirmatory testing, including Western blot. Only rarely does this testing algorithm not provide a definitive result. In such cases, follow-up testing (e.g. repeat serology, polymerase chain reaction [PCR], p24 antigen) involving the collection of additional blood specimens is required. Since 1992, over 200,000 HIV tests have been conducted annually and less than 0.5% have been indeterminate. In recent years, fewer than 10 tests per year remain indeterminate. For the purpose of the analysis, specimens are classified as: negative (includes indeterminate results), seroconverter (positive after a negative test), first-time positive (including window-period cases) or repeat positive.

### 2.1.2 Classification by exposure category

Where more than one risk factor was reported, the case was classified according to a mutually exclusive hierarchy which assigns the case to the exposure category most likely to represent the true source of HIV infection, as follows:

- Men who have sex with men (MSM)
- MSM and injection drug use (IDU)
- IDU
- Mother-to-child transmission (MTC)
- Blood product recipient prior to November 1985
- Blood transfusion recipient prior to November 1985
- Origin/residence in an HIV-endemic area
- Heterosexual transmission
  - High-risk heterosexual
  - Low-risk heterosexual
- Unknown (not indicated, NIR)

The high-risk heterosexual category refers to persons reporting a history of sexual contact with a person known to be HIV-infected or with someone at high risk of HIV infection (e.g., bisexual male [women only], IDU, clotting factor recipient, person from an HIV-endemic region). The low-risk heterosexual category includes all other persons who have had sex with persons of the opposite sex, none of whom were known to be HIV-infected or at increased risk of being HIV-infected.

In the design of the laboratory requisition, blood product recipients were meant to indicate persons who received fractionated blood products. Blood transfusion, on the other hand, was meant to indicate persons who received whole blood or components of fresh blood. However, it later became evident that some physicians prescribing tests used the blood product category to indicate the receipt of blood components. Since more detailed data about these cases were not available, we were not able to reclassify them.

In the previous reports prior to 2005 report, HIV-positive diagnoses in the "Perinatal transmission" category included all children with confirmed HIV antibody. Due to transplacental transmission of maternal antibody, many of these children are not actually infected. In 2006, we undertook a comprehensive review of these cases and developed an algorithm to define HIV infection status based on the results of antibody, p24 antigen and PCR testing of the child. Therefore, HIV-positive diagnoses in children include only those who are actively infected and the exposure has been renamed "Mother-to-child transmission (MTC)" in 2005 report and afterward.

Also with respect to HIV diagnoses in children, we deleted possible duplicate HIV-positive cases based on exact birth date, gender and geographic region (public health unit, forward sortation area of institution or medical doctor). This method may result in a slight underestimation (probably <5%) due to twins and false matches.

### 2.1.3 Data analysis

To the extent possible, subsequent HIV-positive tests from the same person were eliminated to avoid duplicate counting. This was carried out by: (1) removal of HIV-positive tests from persons who indicate that they had a previous positive test and (2) matching HIV-positive tests to earlier HIV-positive tests in the database (using identifying information, e.g., names, initials, dates of birth, clinic where HIV test was carried out, etc.).

We calculated the number and proportion of first-time HIV diagnoses according to sex, age at time of first HIV-positive test (under 1, 1-14, 15-19, 20-29, 30-39, 40-49, 50-59 and 60+ years), exposure category and year of diagnosis. Analyses were carried out according to major health regions; however, these were modified to better reflect the heterogeneity of the epidemic in Ontario and highlight the differences between the larger urban centers and other parts of the province. The following regional categories were used: Northern, Ottawa, Eastern other than Ottawa (Eastern, Other), Toronto, Central East other than Toronto (Central East, Other), Central West and Southwest. The mean age at diagnosis was also calculated. We used 1996 population estimates by health region obtained through Statistics Canada to calculate and map rates of HIV infection. Annual population estimates were used to calculate rates of HIV testing according to health region from 1992 to 2006.

To estimate the true distribution of cases by exposure category and region, we reassigned cases with missing data for several analyses. Cases with unknown sex or region of residence were allocated to these categories based on the distribution among cases observed in the Laboratory Enhancement Study begun in October 1999 <2> and from the Ontario HIV Laboratory Project study carried out in 1995-96 <3>. This methodology was further refined by taking into account cases that were reallocated into a different exposure category based on information collected by the Laboratory Enhancement Study. Further details of the methodology are included in Appendix A.

To indicate multiple risk factors where more than one was reported, we also present in one table first-time HIV diagnoses according to single and multiple sources of exposure.

We calculated "HIV-positivity rates" for cases diagnosed from 1992 to 2006, since data on negative tests have only been collected since 1992. To calculate these rates, persons receiving an HIV test for the first time were included in the numerator and HIV tests conducted in the same calendar year, excluding repeat tests, were included in the denominator. To minimize instability where numbers were small, moving averages were used to calculate and graph HIV-positivity rates by health region and year of diagnosis within each major exposure category.

## 2.2 AIDS incidence

### 2.2.1 Data sources

Data on AIDS cases diagnosed to December 31, 2006 and reported to September 2007 were obtained from the Public Health Division, Ontario Ministry of Health and Long-Term Care.

AIDS cases in Ontario are reported to local public health units and forwarded to the Public Health Division. Reporting of AIDS cases was initiated informally in 1982 and expanded into the official surveillance system (the Ontario AIDS Surveillance Program [OASP]) when AIDS became reportable in August 1983.

AIDS cases in Ontario are classified according to criteria used for epidemiologic surveillance as recommended by the Laboratory Centre for Disease Control <4>. The Laboratory Centre for Disease Control defines a case of AIDS as a person who has an illness characterized by the following: (1) one or more of the specified indicator diseases, and (2) either a positive test for HIV infection or absence of specified causes of underlying immunodeficiency. From 1983 to 1987, approximately 20 indicator conditions, including opportunistic infections and malignancies, were used. In 1987, the list was expanded to include two syndromes (HIV wasting and HIV encephalopathy) and "presumptive diagnoses" for several of the indicator conditions <4,5>. Finally, in 1993, three new indicator conditions were added, namely, pulmonary tuberculosis, cervical cancer (in women), and recurrent bacterial pneumonia <6,7>.

All reported AIDS cases, including those ascertained retrospectively (i.e., prior to the institution of official reporting), were included in our analyses. Until April 2005, AIDS data were maintained in the Ministry's Reportable Disease Information System (RDIS) which was implemented in 1990. This system provided for the organization of data on reportable diseases at the local health unit level and for electronic transfer to the Ministry of Health and Long-Term Care. In 2005, the new Integrated Public Health Information System (iPHIS) replaced RDIS. The transition from RDIS to iPHIS took place from April to December 2005. All data after the transition cut-off for each public health unit have been entered in iPHIS.

To verify data quality, we compared data among cases in RDIS and iPHIS and found that some data fields in RDIS had been incompletely imported into iPHIS. No specific variables on risk factors for AIDS were yet available in iPHIS, although risk factors could be derived indirectly in some cases. Therefore, we adjusted exposure category distributions in recent years to compensate for the limited risk factor information available (see Section 2.2.2 below).

Few cases in iPHIS included the dates of diagnosis of AIDS indicator diseases and the AIDS diagnosis date in iPHIS did not always match the date of diagnosis of AIDS in RDIS. We developed an algorithm to determine the date of diagnosis of AIDS: the earliest date of diagnosis of AIDS indicator conditions was used if present; otherwise, the original variables indicating the date of diagnosis in the database were used.

Due to the difficulties related to the transition to iPHIS, we used data in RDIS (received in 2006 for 2005 report) for this report if a case was present in both RDIS and iPHIS; these cases constituted 92.6% (7,795) of cases in this report. 0.4% (36) of cases in this report had data only in RDIS and 7.0% (590) had data only in iPHIS.



### 2.2.2 Data analysis

Cumulative incidence rates (1981 to 2006) were calculated using the 1996 population as denominator.

The number of AIDS cases and cumulative incidence rate per 100,000 were calculated according to sex, age at AIDS diagnosis (under 15, five-year age categories from 15 to 59, and 60+), exposure category, health region (as described for HIV above; see Section 2.1.2) and year of AIDS diagnosis. In addition, we calculated the mean age at diagnosis. The date of diagnosis was defined as the date of the earliest AIDS-defining illness, if available, or the reported date of diagnosis otherwise.

Due to the large proportion (3.6% in RDIS and 51.5% in iPHIS) of missing values for exposure category in recent years, especially in 2005 and 2006, we reassigned cases with missing data for several analyses based on their distribution among cases with known exposure category stratified by sex, health region and year of diagnosis.

### 2.2.3 Classification by exposure category

Exposure categories were defined according to Appendices C1-3 of the Guidelines for the Surveillance of AIDS in Canada <8>. Where more than one risk factor was reported, a hierarchy was used to determine the most likely source of infection for final classification (see Appendix A).

This was carried out based on the patterns of HIV incidence and prevalence in Ontario. The underlying principle was that, for persons with multiple exposures, we assumed that the most likely source of infection was that associated with the highest HIV incidence and prevalence.

We analyzed HIV and AIDS cases according to single and multiple sources of exposure to evaluate combinations of exposure categories which are not reflected in the hierarchical exposure classification. In this analysis, persons who received clotting factors prior to July 1985 were classified as infected through clotting factor recipients. In addition, those having received clotting factors with date unknown were classified in this exposure category only if they had no other highly predictive risk factors for HIV acquisition. Persons who received a blood transfusion prior to November 1985 or were transfused with unknown date were considered as infected by blood transfusion.

Those who received clotting factor July 1985 or after or a blood transfusion November 1985 or after were attributed to the "no identified risk" (NIR) category. In this analysis, therefore, the numbers in the clotting factor, heterosexual other and transfusion categories do not necessarily reflect those in the hierarchical classification tables.

### 2.2.4 Adjustment for reporting delays

Due to delays between the date of diagnosis and date of report to the Ministry, the actual number of AIDS cases is likely to be underestimated, particularly in the most recent years. Therefore, delay adjustments were carried out for each major exposure category to present a more accurate picture of the annual number of diagnosed cases for the HIV statistical model (see Section 2.4 below). The weight of adjustment and 95% confidence interval of these adjustments were carried out using Lawless method and S-plus program provided by Yan from the Public Health Agency of Canada (PHAC) <9>.

Dates of report for AIDS cases were available from the Public Health Division only from the inception of RDIS (i.e., from 1990). Therefore, the reporting delay analysis was carried out using dates of report provided by PHAC for AIDS cases reported from January 1, 1983 to December 31, 1990. In addition, the PHAC date of report was used for cases reported between January 1, 1991 and December 31, 1996 in which the PHAC date of report was earlier than the Ontario date of report. The date of diagnosis was used for AIDS cases in which the date of report was earlier than the date of diagnosis. The date of report was used for the remaining AIDS cases with dates of report between January 1, 1991 and December 31, 2006. The adjustment factors were applied to all AIDS cases in each of the exposure categories with the most cases (i.e. MSM, MSM-IDU, IDU, HIV-endemic, other heterosexual).

## **2.3 Prenatal HIV testing and mother-infant HIV transmissions**

### **2.3.1 Prenatal HIV testing**

#### **2.3.1.1 Data source**

In January 1999, Ontario adopted a policy to offer HIV testing to all pregnant women. Prenatal HIV testing is conducted at the CPHL and five regional laboratories. Data for this section were extracted from LAByrinth, an information system which links CPHL to the regional laboratories and allows access to data, including HIV results, at these laboratories. Most prenatal serologic testing is carried out using a specific requisition and test results kept in a dedicated database. Nevertheless, for administrative reasons, some HIV testing is carried out through the routine HIV diagnostic program and kept in a separate database. Therefore, records of women having at least one test and included in the prenatal database were linked to the HIV diagnostic database using name and date of birth to determine whether an HIV test was carried out based on both databases.

#### **2.3.1.2 Data analysis**

The pregnancy (rather than subject or test) was used as the unit of analysis. If two or more tests were carried out within 258 days of each other, then these tests were considered to have been carried out during a single pregnancy. This interval was based on an analysis of the 6% of records which indicated the expected date of delivery. Multiple prenatal tests within a pregnancy were combined to evaluate HIV testing status for that pregnancy. We assigned the date of pregnancy as the date of the last test performed in the pregnancy. If a woman was not tested for HIV during a particular pregnancy (*current* test), whether she had been tested before the pregnancy (*prior* test) was also examined.

Records of women receiving prenatal care from January 1999 to December 2006 were used to quantify the number and proportion of pregnant women tested for HIV (test result appeared in the prenatal database) or had been tested in the past through the HIV diagnostic program by quarter and health region. The number and rate of HIV-positive results were also calculated by quarter and health region.

The denominators were the number of pregnancies with at least one prenatal test. If a woman had tested for HIV both during a particular pregnancy (*current* test) and previously, the *current* test

was considered more important and the pregnancy was classified as tested in the current pregnancy.

### **2.3.2 Mother-infant HIV transmission**

#### **2.3.2.1 Data source**

Data were obtained from the Canadian Pediatric AIDS Research Group (CPARG), Ontario region, for infants born to HIV-infected mothers from 1984 to 2006. The Ontario region of CPARG is coordinated by Dr. Lindy Samson at the Children's Hospital of Eastern Ontario in Ottawa. This work was initiated in 1992 to collect information on children born to HIV-infected mothers and receiving specialized care at four hospitals in Ontario. Data is collected by staff at each participating institution from medical charts. The following hospitals have contributed cases to date: Hospital for Sick Children, Toronto; Children's Hospital in Eastern Ontario, Ottawa; McMaster University Medical Centre, Hamilton; and St. Joseph's Health Centre, London.

Solicitation for new cases and an update on the clinical status of previously reported cases is carried out once a year, usually in December or January. The database is maintained using spreadsheet software (Microsoft Excel). Information is collected on date of birth and sex of the infant, country of birth of the mother, risk factor for HIV infection in the mother, whether the mother received zidovudine prophylaxis during pregnancy and the clinical status of the infant (confirmed infected, confirmed not infected, pending/unknown/lost to follow-up). Pending cases are, for the most part, infants for whom a final decision on infection status cannot yet be made on the basis of laboratory test results, including HIV antibody, p24 antigen and polymerase chain reaction (PCR).

#### **2.3.2.2 Data analysis**

The number and proportion of children born to HIV-infected mothers was calculated according to: (1) the year of birth and clinical status of the infant; (2) location of the institution (hospital) and exposure category; and (3) the year of birth of the infant and the presumed source of exposure of the mother among HIV-infected infants.

As some HIV-infected children are diagnosed well after birth, we added an analysis which adjusted for delay in diagnosis. The weight of adjustment and 95% confidence interval of the adjustment was carried out using Lawless method and S-plus program provided by Yan from PHAC <9>.

### **2.4 HIV-related mortality**

#### **2.4.1 Data source**

Data on HIV-related deaths (ICD-9 codes 042, 043 or 044 for 1987 to 1999, ICD-10 codes B20, B21, B22, B23 or B24) occurring from 1987 to 2005 was obtained from the Ontario Vital Statistics office of the Registrar-General.

### 2.4.2 Data analysis

We examined the distribution of HIV-related deaths according to sex, year of death and age group for cases from 1987 to 2005. We also calculated sex-specific annual mortality rates per 100,000.

We also examined the distribution of deaths according to country of birth (HIV-endemic and non-HIV-endemic) for cases from 1987 to 2005. Countries in sub-Saharan Africa and the Caribbean were considered to be HIV-endemic for the purpose of these analyses.

## 2.5 HIV incidence using the detuned assay

In October 1999, we initiated the Laboratory Enhancement Study (LES) to enhance laboratory-based HIV surveillance in Ontario. One of its aims was to estimate HIV incidence among persons testing for HIV using the detuned assay. This technique was first described in 1998 by Janssen et al <10> and permits detection of HIV infections which occurred within the four months previous to the HIV-positive test.

We initially used the standard formula as proposed by Janssen <10> to calculate incidence rate using the number of discordant sera as the numerator and the number of tests multiplied by the mean window period (The mean time from seroconversion was 133 days with the Vironostika assay using a standardized optical density cutoff of 0.75) for the denominator as follows:

$$\text{HIV incidence} = \frac{\# \text{ HIV-positive on diagnostic EIA assay with HIV-negative on detuned}}{\# \text{ HIV tests (negative + positive with negative on detuned)}} \times \frac{365}{133} \times 100 \text{ person-year}$$

Risk factor information collected through the LES was used to assign those without risk factor information to an exposure category as well as to re-allocate cases in selected exposure categories. Where the results of the detuned assay were not available, they were apportioned based on the proportions of the discordant results of those that were done.

HIV incidence were carried out for selected exposure categories (MSM, IDU and heterosexual categories) and aggregated health regions (Toronto, Ottawa and the rest of Ontario) for each year from 2001 to 2006.

However, estimating incidence from a single serum specimen using the detuned assay may be subject to strong test bias <11>. Persons who test may not be representative of all persons in the population; HIV testing frequency may be a function of HIV risk; persons who experience isolated high risk exposures or symptoms consistent with seroconversion illness may be more likely to test in the period following infection (seroconversion effect). We calculated incidence at five values of "window period" and adjusted crude estimates using a software utility which was developed to model true incidence rate using formula taking into account bias due to seroconversion effect <12>.

## 2.6 Ontario HIV model

We wished to estimate with the greatest precision possible the incidence, cumulative incidence and prevalence of HIV infection and AIDS from 1977 to 2006. We also wished to assess annual

and cumulative deaths due to HIV. To accomplish this, we used data from a variety of sources, including (with source) HIV serodiagnoses (Central Public Health Laboratory), AIDS incidence (Ontario AIDS Surveillance Program), AIDS mortality (Vital Statistics, Registrar-General) and HIV infections among women who delivered a live infant (CPARG). Data from the Laboratory Enhancement study and other studies, where available, were also used.

The detailed methodology used to derive the estimates is beyond the scope of the present report. However, further details are available upon request. A brief summary of the methodology used is described in the methods section as well as in previous reports. In essence, we derived estimates of HIV incidence, AIDS incidence and HIV-related mortality to fit available data on serodiagnosis, seroprevalence studies (limited data), reported AIDS cases and data on HIV-related mortality.

Initial estimates for HIV incidence, AIDS incidence and HIV-related deaths were entered into a spreadsheet and the values of the above indicators were progressively refined in an iterative fashion so as to be consistent with the collected data, taking into account the direction and strength of biases. The initial results were compared to results from techniques used elsewhere (e.g. back-calculation) to verify the credibility of the estimates. Further details concerning the techniques used are included in the first Ontario HIV/AIDS surveillance report <13> as well as in Appendix B.



### 3. RESULTS

#### 3.1 HIV diagnoses

##### 3.1.1 Number of HIV diagnoses

From October 1985 to December 2006, 27,621 persons (22,620 males, 3,895 females and 1,106 of unknown sex) in Ontario were diagnosed with HIV infection (**Table 1.1** and **Figure 1.1**). Initially, the number of HIV diagnoses increased steeply, from 1,365 in 1986 to a peak of 2,069 in 1990. Since then, the annual number of diagnoses gradually decreased to about 900 cases in 1999 and 2000. Beginning 2002 and subsequently, the number of new HIV increased: during the five-year period from 2001 to 2006, the number of HIV diagnoses increased 21%.

1,106 cases or 4.0% of HIV diagnoses had unknown sex. Overall, males continue to account for the majority of diagnoses (70.5% in 2006); the number of HIV diagnoses rose to a peak of just over 1,800 in 1990 and decreased subsequently. From 1997 to 2001, approximately 700 infections were diagnosed annually in males. However, since 2001, about 825 infections have been diagnosed annually. The proportion of diagnoses comprised by females dramatically increased, from 1.8% in 1985 to about 30% in 2006. In 2006, the number of HIV diagnoses in females was 46.5% greater than in 2001.

**Table 1.2** presents cumulative HIV diagnoses by exposure category and sex from 1985 to 2006. Notably, 14,164 or 51.3% of diagnoses had no information on the likely source of infection. Thus, the proportions shown are for exposure categories among men, women and total cases for which risk factor information was available.

**Table 1.3** is similar to **Table 1.2** but shows HIV diagnoses adjusted for unknown sex and exposure category according to proportion among the known and incorporating the results of the Laboratory Enhancement Study as described in Section 2.1.3 in the Methods and Appendix A. This analysis revealed that approximately 17,112 MSM, 3,243 persons from HIV-endemic countries, 2,190 IDUs, and 1,102 MSM-IDU have been diagnosed with HIV to 2006. 152 children were infected through mother-to-child transmission. In this analysis, the proportion assigned to the HIV-endemic exposure category was substantially higher (6.7% for males and 40.1% for females) than the unadjusted figures for both sexes. In contrast, the proportion assigned to the low-risk heterosexual category decreased from 6.7% to 5.2% for males and from 33.2% to 17.4% for females. The adjusted proportion of HIV diagnoses in females assigned to the three categories reflecting heterosexual transmission was 72.7%.

**Table 1.3a** shows the adjusted HIV diagnoses in 2006 by exposure category. Among males, the three highest proportions of exposure category were: MSM (62.4%), low-risk heterosexual (13.2%) and persons from HIV-endemic countries (12.4%). 57.1% of female cases were from HIV-endemic countries. Heterosexual transmission accounted for 91.0% of cases among females in 2006.

**Table 1.4** displays the unadjusted HIV diagnoses by exposure category and year of HIV diagnosis from 1985 to 2006. Exposure category could not be determined for 14,164, or 51%, of cases. The proportion without data allowing the assignment of exposure category (data not shown) has not changed substantially in recent years.



**Table 1.5** shows the adjusted number and proportion of HIV diagnoses by year of diagnosis and exposure category from 1985 to 2006. The pattern of exposure category has substantially changed over time. In the early years of the epidemic, MSM comprised the vast majority of HIV diagnoses, accounting for 75-89% of diagnoses from 1985 to 1991. This proportion subsequently decreased and has been 40-50% since 1998.

IDUs comprised 0.4% of persons diagnosed in 1985 but the proportion gradually increased over the ensuing years. The proportion increased to a maximum of 10-14% in the period 1994 to 1999, then decreased to 7-9% from 2000 to 2005 and 4.8% in 2006.

The number and proportion of HIV diagnoses attributed to persons from an HIV-endemic country increased steadily over time, from less than 5% in the mid- to late-1980s to 20-26% in the most recent five years from 2001 to 2006.

A similar increasing trend was observed in the low-risk heterosexual exposure category, from less than 1% from 1985 to 1990 to 13-17% from 2001 to 2006.

**Figure 1.2** graphically displays the adjusted proportion of HIV diagnoses in each exposure category by two-year period 1985 to 2006. As noted above, we observed a gradual decrease in the proportion of HIV diagnoses among MSM and MSM-IDU and a relative increase in the proportion of HIV diagnoses among the HIV-endemic and low-risk heterosexual categories from 1985-86 to 2001-02. The proportion of HIV diagnoses has been stable in the latest three two-year periods for these four categories. The proportion of IDUs increased gradually from 1985-86 until 1999-2000 and then decreased.

**Table 1.5a** shows the same analysis as in Table 1.5 for males only. The number of HIV diagnoses among males increased after testing became available in October 1985 to a peak of 1,903 diagnoses in 1990. Since then, it decreased dramatically to a low of 701 in 2000. From 2002 to 2006, diagnoses increased to about 840 cases annually. In the last five-year period (2002-06), the annual number of HIV diagnoses among males was 13% greater than in 2001.

Although the proportion of HIV diagnoses comprised by MSM decreased, the number of diagnoses among MSM increased in recent years and was 24% greater in 2002-2006 compared to 1999-2001.

IDUs accounted for a gradually increasing proportion of HIV diagnoses in males, from less than 2% for the first three years following the beginning HIV testing and increasing gradually to 5.6% from 1988 to 1993 and to about 10% from 1994 to 1999. It then decreased to 7% from 2000 to 2005 and 4.2% in 2006.

Men from HIV-endemic countries accounted for a gradually increasing proportion of HIV diagnoses since HIV testing began. The proportion of men from HIV-endemic countries reached 15-17% in 2001 through 2003, decreased to 10% in 2004 and 2005, then increased to 12.4% in 2006.

Cases in the two heterosexual risk categories increased since HIV testing became available. However, from 2001 to 2006, in contrast to low-risk heterosexual category (where HIV diagnoses increased by 54.1%), the number of HIV diagnoses in high-risk heterosexual category decreased by 23.8%.

Not surprisingly, HIV infections acquired from clotting factors and blood transfusion have decreased during the past 20 years. These routes of transmission accounted each for 2-3% in the first few years of the epidemic but less than 1% each since 1996 for blood transfusion and since 1991 for clotting factors.

**Table 1.5b** shows the same analysis as Table 1.5 for females only. The number of HIV diagnoses among females gradually increased until 1994 and remained relatively stable at about 200 cases per year from 1994 to 2000, increasing again in 2001. The highest number of diagnoses in women ever was observed in 2006, with 344 cases. Compared to 2001, the number of HIV diagnoses among females increased by 44.0% in 2006. This was mainly due to an increase in females from HIV-endemic countries (increase of 88.3%) and in the low-risk heterosexual category (increase of 30.4%).

Since HIV testing began, the proportion of cases attributed to IDUs among women varied somewhat but was generally about 25% from 1987 to 1999, decreasing to 13.9% in 2000. From 2001 to 2006, the proportion was 6-9%, increasing to 11-13% in 2004 and 2005, then decreasing to 6.0% in 2006.

**Table 1.6** shows the distribution of age at time of HIV diagnosis and sex among persons diagnosed from 1985 to 2006. For both males and females, the vast majority of HIV diagnoses (89.6% for men and 86.8% for women) were among adults aged 20 to 49 years. Overall, men were about three years than women (mean and median age 35.9 and 35.0 years versus 33.0 and 32.0 years in women).

**Table 1.7** presents the age distribution among persons diagnosed with HIV from 1985 to 2006 by exposure category. Overall, the majority of persons diagnosed with HIV were aged 20 to 44 years; by exposure category the proportion in this age group was 85.0% in MSM, 91.2% in MSM-IDU, 88.9% in IDU, 82.3% in HIV-endemic, 80.2% in high-risk heterosexuals and 81.4% in low-risk heterosexual. The mean age at HIV diagnosis for the MSM, MSM-IDU, HIV-endemic and heterosexual exposure categories was 32 to 35 years of age. Persons infected by clotting factors were somewhat younger (69.3% of cases were less than 35 years old) whereas those infected by blood transfusion were older (64.7% of cases were 35 years of age or older).

**Table 1.8** shows the mean age at HIV diagnosis by year of diagnosis and exposure category among males. Among MSM, the mean age increased slightly, from 33-36 years in 1985 to 1997 to 37-38 years in 1998 to 2006. A more dramatic increase in age was observed among IDUs, from 25-31 years in 1985 to 1992 to 36-43 years in 1997 to 2006. Note that the mean age at HIV diagnosis is a function of both the age at HIV infection and of the time from HIV infection to diagnosis and is, therefore, not easily interpreted. However, given the marked increase of age at diagnosis (about 10 years), it is likely the age at HIV infection has increased among IDUs.

**Table 1.9** shows similar data to those in Table 1.8 for women. For IDUs, the mean age at HIV diagnosis increased from 26-31 years in 1986-94 to 32-39 years in 2000-06. No substantial changes in age at HIV diagnosis were observed among women from HIV-endemic countries and women in both heterosexual exposure categories.

**Table 1.10** shows the distribution of HIV diagnoses from 1985 to 2006 for combinations of individual risk factors. This is in contrast to the previous tables where cases were classified according to exposure category using a mutually exclusive hierarchy of risk factors.

Interestingly, of the 9,375 MSM, a substantial proportion (20.0%) were bisexual. This is a potentially important route of sexual transmission of HIV to women. Though the number of MSM from HIV-endemic countries appeared low (47 in all), data from the LES suggest that, for MSM cases born in an HIV-endemic country, the country of birth may not be indicated on the HIV laboratory requisition. Only 19 of the 1,084 IDUs were from an HIV-endemic country.

**Table 1.11** presents the unadjusted HIV diagnoses by exposure category and health region from 1985 to 2006. 1,322 cases (4.8%) were missing information on health region. Detailed comments on the regional differences in the distribution of exposure categories are included in the discussion of Table 1.13 below which presents adjusted analyses.

**Table 1.11a** shows an analysis similar to that in Table 1.11, presenting row instead of column percent. This analysis permits an examination of the relative proportion of exposure categories diagnosed in each health region. Overall, 66.2% of HIV infections were diagnosed in Toronto and 11.0% in Ottawa. The vast majority (77.4%) of HIV diagnoses among MSM were in Toronto; the next highest was in Ottawa, accounting for 8.8%. For IDUs, HIV diagnoses were distributed more broadly, being highest in Toronto (32.3%) and Ottawa (24.5%) and 8-12% for the Northern, Eastern, other and Central West regions. Not unexpectedly, the majority of HIV diagnoses among persons from HIV-endemic countries were in Toronto (54.3 %) and Ottawa (23.5%). The other regions accounted for 7.8% (Central West), 6.1% (Central East, other) and 5.0% (Southwest). For the two heterosexual categories, Toronto accounted for 52.6% of diagnoses, followed by the Ottawa (12.4%), Central East, other (9.6%), Central West (9.1%) and Southwest (9.0%) health regions.

**Table 1.12** shows the same analyses as Table 1.11 for 2006 alone. Detailed comments on the regional differences in the distribution of exposure categories are presented with Table 1.14 below which provides the adjusted analyses.

**Table 1.13** presents a similar analysis to Table 1.11 adjusted for unknown exposure category and health region. The distribution by exposure category differed markedly across health regions. MSM accounted for 69.1% of HIV diagnoses in Toronto, 61.5% in the Southwest region and 44-48% in all the other regions except for Northern region where 31.5% of diagnoses were among MSM.

The Northern region had the highest proportion of IDU (40.7%), followed by the Eastern, other (24.1%) and Ottawa (14.5%). The highest proportion of HIV diagnoses comprised by persons from HIV-endemic countries was in Ottawa at 21.0%, followed by the Central East, other (14.6%), Central West (13.8%) and Toronto (10.5%) regions. The proportion of persons infected through heterosexual contact also varied, from a low of 8-9% in Toronto and Ottawa, 12-15% in the Eastern, other, Southwest and Central West regions, 18-19% in the Central East, other and Northern regions.

**Table 1.13a** and **Table 1.13b** show adjusted data for males and females, respectively. Again, Toronto comprised the majority of HIV diagnoses in Ontario, with 68.1% of cases for males and

53.3% for females; Ottawa comprised 10.3% of cases in males and 15.7% in females (proportions not shown).

The regional distribution of exposure categories by region in males was similar to that in both sexes together shown in Table 1.13. Among females, IDU accounted for 59.6% of HIV diagnoses in the Northern region, 40.5% in the Eastern, other region and 21.1% in Ottawa. Ottawa had the highest proportion (51.4%) of HIV diagnoses comprised by women from HIV-endemic countries and the Southwest region had the highest proportion (48.5%) of HIV diagnoses from persons infected through heterosexual contact.

Overall, the cumulative incidence rate was 6-fold higher in males than females. For males, the cumulative rate of HIV diagnoses in Toronto was twice as high as in Ottawa, whereas the rate was very similar for females in both regions.

**Table 1.14** is similar to Table 1.13 showing adjusted data for 2006 alone. 60.2% of the HIV diagnoses in 2006 were in Toronto. MSM accounted for 48.7% of cases in Toronto, 17.2% in the Northern region and 33-44% in the rest of the health regions.

Persons from HIV-endemic countries comprised about one-third of HIV diagnoses in the Ottawa, Southwest and Central West regions.

In the Northern region, 43.7% of HIV diagnoses were IDUs and 31.2% were persons infected through heterosexual transmission.

The proportion of heterosexual cases was 30.5% in the Central East, other region and 16-26% in the other regions.

**Table 1.14a** and **Table 1.14b** show adjusted data among males and females, respectively, in 2006. The HIV diagnosis rate among males was 2.5-fold higher than among females (13.8 per 100,000 vs. 5.5 per 100,000).

With respect to **Table 1.14a**, MSM comprised most diagnoses among males (50-70%) in most regions, except the Northern region, with 30.4%. Compared to cumulative cases from 1985 to 2006 (Table 1.13a), the proportions of male cases from HIV-endemic countries and infected heterosexually increased in 2006 in Ontario (12.4% vs. 6.7% and 15.1% vs. 6.6%, respectively). Similar increases were observed in most regions examined individually.

In **Table 1.14b**, overall, females from HIV-endemic countries comprised 57.1% of cases; 89% of these cases were from Toronto, Ottawa or the Central West region. Most female cases in the Northern regions were IDU. In contrast, most female cases in the Central East, other and Southwest regions were from HIV-endemic countries or infected heterosexually.

**Table 1.15** shows the number and rate per 100,000 persons of HIV diagnoses for 1985 to 2006 by public health unit and sex. The rate was 249.2 overall, 414.3 for males and 69.3 for females. The rates was highest in Toronto, at 707.5 per 100,000, high-intermediate in Ottawa (390.0) and Middlesex-London (289.4) and low-intermediate in Kingston (222.3), Hamilton (154.7), Windsor-Essex (137.9) and Sudbury (101.7). Rates were 15 to 83 per 100,000 in the other public health units.



The ratio of the HIV diagnosis rate among males compared to that of females varied markedly by public health unit. The ratio was highest in Chatham-Kent at 17.5, Grey Bruce at 12.6, Hastings-Prince Edward at 8.1 and Toronto at 8.0, compared to a low of 1.7 in Haldimand and 1.9 in Elgin-St. Thomas. For eight public health units (Algoma, Brant, Porcupine, Thunder Bay, Waterloo, York Region and the two PHUs mentioned above), the ratio was less than three, i.e. women comprised more than 25% of cumulative HIV diagnoses.

**Table 1.16** shows the number and proportion of HIV diagnoses by year of test and type of identifier. No specimens were tested anonymously prior to 1992 because anonymous testing programs were implemented in that year. Since 1992, only 24 (0.14%) HIV-positive tests did not have the type of identifier indicated. Overall, the proportion of HIV tests with nominal identifiers steadily increased while diagnoses with coded identifiers decreased; those tested anonymously remained relatively constant at around 10%. In 2006, 78.6% of HIV-positive tests were nominal, 12.2% coded and 9.1% anonymous.

**Table 1.17** and **Table 1.18** show analyses similar to Table 1.16 among males and females, respectively. The patterns for each sex were similar to that seen for both sexes together, with the proportion of nominal identifiers steadily increasing. However, the proportion of nominal tests among females was generally higher than that among males. Since 1992, 74.3% of tests among females were nominal compared to 55.8% among male. Conversely, 19.3% of HIV-positive tests among females were coded compared to 33.0% among males; however, the proportion of anonymous tests among males was approximately double that of females. In 2006, the proportions of nominal, coded, and anonymous tests were 91.4%, 4.7% and 3.9% for females, and 73.8%, 14.7% and 11.6% for males, respectively.

### 3.1.2 Positivity rate of HIV tests

In a second stage of analysis, we examined HIV diagnoses as a proportion of tests by exposure category for each year from 1992 to 2006 (Tables 1.19 to 1.26).

As seen in **Table 1.19**, 61.5% (2,766,174/4,501,370) of HIV tests overall and 53.2% (9,225/17,328) of HIV-positive tests had missing information on risk factors. Since adjusted data is of greater interest, the discussion of trends will be limited to the adjusted data (see Table 1.20 following).

**Table 1.20** presents the number of HIV-positive tests, number tested and HIV positivity rates by exposure category from 1992 to 2006 with cases with unknown exposure category reassigned using the adjustment procedure described in Appendix A.

Overall, excluding the mother-to-child (MTC) category (which is distinct from the other categories), the HIV positivity rate was 4.5% among MSM-IDUs, 3.6% for MSM, 2.6% for persons from HIV-endemic countries, 0.69% for IDUs, 0.33% for persons classified as high-risk heterosexual and 0.06% among those classified as low-risk heterosexual.

For MSM, HIV positivity rates decreased from 5-7% in 1992 to 1995 to about 3% since 1997. The positivity rate among IDUs decreased erratically from 1992 to 1999 and has been relatively stable since at about 0.60%. The interpretation of these rates is complex since they are a function of

both patterns of HIV infection and of testing, both of which may differ across exposure categories and change over time.

**Table 1.21** displays the unadjusted HIV positivity rates by exposure category and health region cumulatively for the period 1992 to 2006. Since adjusted data is of greater interest, the discussion of trends in HIV positivity will be limited to the adjusted data (see following Table 1.22).

**Table 1.22** shows HIV positivity rates for the period 1992 to 2006 with data adjusted for unknown exposure category. We observed regional differences in HIV positivity rate for most exposure categories. Toronto experienced the highest positivity rate in MSM and MSM-IDU.

For MSM, HIV positivity rates varied from 1.4% in the Northern region to 4.8% in Toronto. Similarly, the rate in MSM-IDU was from 1.4% in the Eastern, other region to 8.7% in Toronto. For IDUs, the highest positivity rates were observed in the Northern region with a rate of 1.2%, followed by Ottawa with 1.0% and Toronto with 0.76%. The positivity rate in the HIV-endemic category was also the highest in Ottawa, with a rate of 4.6% followed by 3.1% in Toronto. There were relatively minor regional differences in the positivity rate in the high-risk and low-risk heterosexual categories.

**Figure 1.3** graphically presents HIV positivity rates among MSM by health region and year from 1992 to 2006. Though the trends over time are somewhat difficult to discern (in part due to small numbers and changes in HIV testing patterns), the positivity rate decreased among MSM in most regions. The most dramatic decrease was in the Southwest and Toronto regions. However, the positivity rate increased in the Eastern, other region since 2001 and in the Central West region since 2003.

**Figure 1.4** shows a similar graph for IDUs during the same 15-year period. Generally, Ottawa experienced a relatively high rate, varying around 1.0% and appeared to decrease since 2004. In Toronto, the rate was intermediate with a decreasing trend. The Northern region experienced an increasing trend in the HIV positivity rate since 2002.

**Table 1.23** presents similar data to Table 1.22 stratified by sex. Overall, HIV positivity rates among males were slightly higher than among females in the IDU and the high-risk and low-risk heterosexual categories. There were, however, some exceptions in individual health regions. For example, the positivity rate in the high-risk heterosexual category was higher among females than males in the Southwest region (0.40% vs. 0.19%, respectively) and in the Eastern, other region (0.18% vs. 0.08%, respectively).

For the HIV-endemic category, the overall positivity rate was 2.3% in males and 3.1% in females. The rates were much higher among females than males in Ottawa, Toronto and the Central West region. No gender difference was observed for the rest of the health regions. These results must be interpreted with caution due to incomplete data for persons born in HIV-endemic countries testing for HIV.

**Table 1.24** shows the unadjusted HIV positivity rates by exposure category and health region for 2006 only. Again, since adjusted data is of greater interest, the discussion of HIV positivity in 2006 will be limited to the adjusted data (please see following Table 1.25).



**Table 1.25** shows the results of the adjusted analysis for 2006. The highest positivity rate for Ontario as a whole was observed among MSM-IDU at 3.9%, with the highest in Ottawa at 12.1%, followed by Toronto at 5.1%. The second highest rate was among persons from HIV-endemic countries at 2.8%, with the highest in Toronto and Ottawa (both at 3.9%) and the lowest of 0.0% (no positive results among 77 persons) in the Northern region. The rate was 2.6% for MSM overall, with the highest in Toronto at 3.6% and the lowest in the Northern region at 0.83%. For IDUs, the overall rate was 0.36%, varying from 0.01% in the Southwest region to 0.95% in the Northern region. The overall positivity rate for the high-risk heterosexual category was 0.27%, with the highest in Toronto at 0.62% and the lowest of 0.04% in the Eastern, other region.

**Table 1.26** displays similar data to Table 1.25 stratified by sex. Overall, HIV positivity rate among persons from HIV-endemic countries was almost three-fold higher among females than males (4.5% vs. 1.7%, respectively); the highest rate in females was in Ottawa with 8.1%. For IDUs, the overall rate among females was slightly higher than among males, although the rates were higher among males in the Eastern, other and Ottawa regions.

### 3.1.3 Number and rate of HIV testing

**Table 1.27** presents the number of HIV tests by year of test and sex from 1992 to 2006. The annual number of tests in Ontario increased from 218,000 in 1992 to 262,000 in 1993, and then was relatively stable at about 270,000 from 1993 until 2001. In the most recent five years, the number of tests increased substantially with the highest number (413,000) in 2006. Overall, HIV testing increased by 47.8% in 2006 compared to 2001, with an average annual increase of 8.1%. Since HIV testing began, 55.3% of tests were among females and 3.5% (155,439) persons tested had no gender indicated on the laboratory requisition.

**Table 1.28** is similar to Table 1.27 with data adjusted for unknown sex and shows the number of HIV tests and testing rate per 1,000. Among males, the testing rate was little changed at 20-23 per 1,000 from 1992 to 2001; however, the rate subsequently increased and was 50.8% higher in 2006 than in 2001. During the most recent five-year period from 2001 to 2006, the testing rate among females increased 39.5%, with an average annual increase of 6.9%.

**Table 1.29** shows the unadjusted number and proportion of HIV tests by exposure category by year from 1992 to 2006.

**Table 1.30** displays the same data as Table 1.29 adjusted for unknown exposure category. The majority (68.7%) of HIV tests during this period were among low-risk heterosexuals. They accounted for about 56% of tests in 1992 through 1994, this proportion gradually increased to 76% in 2006. The next highest number of HIV tests overall were among MSM and IDU (both at 5.4%) followed by high-risk heterosexuals (5.2%). Compared to 2001, the number of HIV tests in 2006 increased by 27.9% for MSM, 54.3% for HIV-endemic, 37.6% for high-risk and 62.5% for low-risk heterosexual categories.

**Table 1.31** shows the unadjusted number and proportion of HIV tests by age and exposure category. 3.6% of the cases had unknown age. The age distribution of tests overall somewhat mirrors the proportions of HIV-positive tests (Table 1.7): the majority (73.7%) were carried out among persons aged 20 to 44 years, with 76.5% for MSM, 82.1% for MSM-IDU, 80.7% for IDU, 75.8% for HIV-endemic, 74.4% for high-risk and 78.2% for low-risk heterosexuals. Interestingly,

the proportion of persons 15-19 years old among in the high-risk and low-risk heterosexual categories was two- to three-fold higher than in the other exposure categories, at 13.9% and 11.3%, respectively.

**Table 1.32** shows the number of HIV tests by year and health region from 1992 to 2006. Toronto accounted for the largest number of HIV tests, representing 36 to 43% of tests in Ontario during the 15-year period. The region with the second highest number of tests was Central East, other, with 16.7% of tests overall and with an increasing trend, from 14.0% in 1992 to 19.0% in 2006. The lowest number of HIV tests was in the Northern region (5.1% overall) followed by the Eastern, other region (6.2% overall). All of the regions experienced increasing trends in the number of HIV tests. The Toronto and Central East, other regions observed the greatest increase (58.5% and 62.0%) in the number of HIV tests in 2006 compared to 2001.

**Table 1.33** shows the number and HIV testing rates by year and region. Overall, Toronto had the highest testing rate at 44.1 per 1,000, followed by Ottawa at 39.3 per 1,000. The rates were substantially lower in the five other regions, varying from about 15 to 22 per 1,000. All regions showed a general increasing trend in testing rates from 1992 to a peak in 1998 or 1999, followed by a plateau until 2001 and then a further increase. Compared to 2001, the overall testing rate in 2006 increased 44.6%, with the highest increase of 64.2% in Toronto and the lowest increase of 18.8% in the Eastern, other region.

**Table 1.34** shows the number and proportion of HIV tests from 1992 to 2006 by type of identifier (nominal, coded or anonymous) as indicated on the laboratory requisition. The proportion tested nominally increased substantially, from 70.8% in 1992 to 91.8% in 2006. Conversely, the proportion with coded testing decreased from 19.6% in 1992 to 6.1% in 2006. The proportion undergoing anonymous HIV testing represented 3.4% of tests overall but gradually decreased, from 4.4% in 1992 to 2.1% in 2006. Since 1992, about 9,000 to 12,000 tests were carried out anonymously, with no obvious increasing or decreasing trends in the number of anonymous tests.

**Table 1.35** displays a similar analysis to Table 1.34 stratified by sex. Overall, the proportion of nominal tests was slightly lower in males than in females (81.8% and 85.8%, respectively) whereas the proportion of coded tests was slightly higher in males than females (13.3% versus 11.4%). Anonymous testing accounted for 4.6% of tests among males and 2.6% among females.

There was an increasing trend in both absolute number and proportion of nominal tests for both sexes. The number of nominal tests in 2006 increased by 68.1% among males and 56.5% among females compared to 2001. Conversely, the number of coded tests decreased over time, a 25.4% decline for females and 13.9% decline for males in 2006 compared to 2001.

### 3.2 Reported AIDS cases

**Table 2.1** presents reported AIDS cases in Ontario by year of diagnosis and sex from 1981 to 2006. 8,421 cases diagnosed to end 2006 were reported by September 2007. The annual number of cases increased gradually after AIDS became reportable in 1981 until the early 1990s and reached a maximum of 734 in 1992. Since then, the annual number of AIDS diagnoses decreased markedly, with a low of 163 cases in 2000. The decrease in reported AIDS incidence from 1993 to 2000 was 77.8%. However, the number of newly diagnosed cases increased to 207

in 2001 and has been relatively stable at about 180 cases per year from 2001 to 2005. The number of reported AIDS cases decreased to 128 in 2006, this decrease may partly due to reporting delay. The proportion of AIDS cases among females has gradually increased, from less than 2% in the mid 1980s to 25.8% in 2006.

The far column on the right in Table 2.1 shows the annual number of AIDS cases adjusted for reporting delay as indicated in Methods Section 2.2.4. Taking into account reporting delay, the estimated total of AIDS cases in Ontario since 1981 was 8,954. AIDS incidence reached its lowest level in 2000 and increased to a higher and variable incidence in 2001 through 2005. In 2006, adjusted AIDS incidence increased 22% over the previous year, with 316 cases compared to 263 in 2005. Though there is uncertainty about the true AIDS incidence in 2006, it appears that AIDS incidence increased 81% since 2000.

**Table 2.2** shows the distribution of reported AIDS cases by exposure category and sex. The majority of cases were among MSM, representing 65.9% of cases overall and 72.0% of cases among men. Those infected by heterosexual contact accounted for 8.5% of AIDS cases overall but comprised 33.6% of cases among women. Similarly, cases among persons from HIV-endemic countries accounted for 6.4% overall but 28.8% of cases among women. Overall, 7.0% of AIDS cases were missing risk factors and therefore exposure category was unknown.

**Table 2.3** is similar to Table 2.2 but shows the distribution of AIDS cases adjusted for unknown exposure category according to the proportion among known cases stratified by sex, health region and year of AIDS diagnosis. According to this analysis, approximately 5,880 MSM, 810 persons infected by heterosexual contact, 580 persons from HIV-endemic countries, 450 IDU and 350 MSM-IDU were diagnosed with AIDS to 2006. 61 reported AIDS cases were through mother-to-child transmission. MSM comprised of 69.8% of cases overall and 76.3% of cases among men. 38.0% of female cases were attributed to heterosexual transmission and 32.2% were from HIV-endemic countries. Thus, 70% of cases in women were presumed to be due to heterosexual transmission.

**Table 2.4** presents AIDS cases by year of diagnosis and exposure category from 1981 to 2006. The proportion of cases with unknown exposure category was higher since 1998, especially in 2005 with 26.0% and in 2006 with 22.7%. (This increase is related to the change in reporting system and is discussed in the Methods section above).

Generally, the proportion of MSM has gradually decreased whereas the proportion of IDUs, persons from HIV-endemic countries and persons infected through heterosexual contact has increased over time.

**Table 2.4a** and **Table 2.4b** shows the distribution of AIDS cases by exposure category from 1981 to 2006 among males and females, respectively. In 2006, 16.8% of male cases and 39.4% of females cases had no information allowing assignment to exposure category.

**Figure 2.1** presents the number of AIDS cases for selected exposure categories by year of diagnosis from 1981 to 2006 adjusted for reporting delay and unknown exposure category. For MSM, AIDS incidence increased steeply from a low of 15 cases in 1983 to a peak of 560 in 1993 and decreased since. However, the number of reported AIDS cases adjusted for reporting delay appeared to increase in the period 2003 through 2006. AIDS incidence also appears to have increased since 2001 in the heterosexual and HIV-endemic categories.

**Table 2.5** shows AIDS cases adjusted for unknown exposure category by year of diagnosis and exposure category from 1981 to 2006. More than 80% of AIDS cases were among MSM until 1990, 73-79% from 1990 to 1994 and the proportion decreased gradually thereafter. In the most recent five years, the proportion of MSM remained relatively stable at about 40-43% each year.

IDUs constituted only a small proportion (less than 3%) of AIDS cases until 1989. Following this, the proportion gradually increased. The proportion of IDUs has been relatively stable at 11-12% since 2000.

The proportion of cases in the HIV-endemic category increased gradually, from less than 3% from 1981 to 1990 to 10-15% in 1996 to 2000, and then increasing further to 20-24% in 2001 to 2006.

The heterosexual category increased gradually, from less than 5% before 1989 to more than 10% in the mid-1990s to a peak of 23.6% in 2003 and decreased slightly since.

Cases related to clotting factors and blood transfusion constituted 1.6% and 1.9%, respectively of all AIDS cases in Ontario. From 2002 to 2006, however, only one case was attributed to clotting factors and seven cases to blood transfusion,

**Table 2.5a** shows a similar analysis for males only. The trend in the proportion constituted by MSM was similar to the previous table. The proportion of MSM was about 53% in the period 2001 to 2006.

The proportion of reported AIDS cases related to IDU gradually increased, from less than 2% from 1981 to 1988 to a peak of 11.7% in 2001. The proportion decreased somewhat subsequently and was 8.4% in 2006.

We observed a marked increase in the proportion of AIDS cases among men from HIV-endemic countries and men infected through heterosexual transmission since AIDS was reportable. Men from HIV-endemic countries constituted 15-18% of cases in 2002 to 2006 compared to less than 3% in the years before 1995. Though less than 5% before 1990, heterosexually infected men represented 15 to 20% of cases in 2000 through 2005, but slightly decreased to 11.7% in 2006.

The situation among women, shown in **Table 2.5b**, is noteworthy. Overall, AIDS cases related to heterosexual transmission constituted 38.0% of cases among women. The proportion increased from 0% in 1981 to a high of 51.9% in 1994, then decreased. However, the proportion has been somewhat unstable since 1999. The proportion was about 38-39% from 2003 to 2005, decreasing to 33.6% in 2006.

Cases among women from HIV-endemic countries represented 32.2% of cases overall. Using a three-point moving average to reduce year-to-year variation, the proportion was relatively stable between 1986 and 1995 and dramatically increased since 1996, reaching a peak of 53.5% in 2002. The proportion of female cases constituted by women from HIV-endemic countries was about 41% in the most recent years from 2004 to 2006.

IDUs accounted for 15.8% of cases among females compared to 4.3% for males. The proportion fluctuated over the period examined without any obvious increasing or decreasing trend.



**Table 2.6** shows the cumulative number and rate per 100,000 of reported AIDS cases by age group and sex from 1981 to 2006. The cumulative AIDS incidence rate in Ontario was 75.9 per 100,000. The overall rate was 11.0 times greater in males than females. The highest rate was observed in the 30-44 year age group among males and in the 25-34 year age group among females.

**Table 2.7** shows similar data to Table 2.6 for 2006. Similar to the cumulative incidence rate, the incidence rate for males in 2006 was higher than for females but less so with a M:F sex ratio of 3.0 times. The highest rate was observed in the 40-49 year age group among males and in the 30-39 year age group among females.

**Table 2.8** presents the number and proportion of AIDS cases by age group and exposure category. The distribution of age varied according to exposure category: for those infected by clotting factors, cases were younger at the time of AIDS diagnosis (35% were younger than 30 years of age compared to 16% for all other exposure categories,  $p < 0.0001$ ). Those infected through blood transfusion were, on the other hand, somewhat older (46% were 50 years of age or older compared to 12% of cases in the other exposure categories,  $p < 0.0001$ ). For most of the other exposure categories, most AIDS cases were diagnosed among persons aged 30 to 44 years.

**Table 2.9** shows the mean age at AIDS diagnosis by year of diagnosis and exposure category among males from 1981 to 2006. For MSM, the mean age at AIDS diagnosis increased moderately from about 37 years in the first few years to about 43 years in 2003 to 2006. For MSM-IDU, the overall mean age at AIDS diagnosis was 35 years and was somewhat unstable in recent years, varying from 31 to 43 years since 1997; this was probably due to the relatively small number of cases. The mean overall age at AIDS diagnosis for IDUs was 36.6 years. The age in the mid-1980s was in the range of 33 years and gradually increased since the early 40s for the most recent five years.

**Table 2.10** presents the mean age at AIDS diagnosis among females. Female IDU cases were, on average, two years younger than male IDU cases (34.6 versus 36.6 years). Similarly, females from HIV-endemic countries were 35.5 years of age at time of AIDS diagnosis compared to 38.9 years for males. Female heterosexual AIDS cases were also younger than males, 39.2 years compared to 42.1 years.

The mean age at AIDS diagnosis among female IDUs increased over time, from 31 years from 1986 to 1994 to 35 years from 1995 to 1999, then to about 40 years since 2001. The mean age at AIDS diagnosis among females from HIV-endemic countries varied from 30 to 44 years over time with no clear increasing or decreasing trend. In the most recent five years, the mean age of female AIDS cases infected by heterosexual contact increased dramatically to 45 years old, compared to an average of 37 years old before 2001.

**Table 2.11** shows AIDS cases by exposure category and health region from 1981 to 2006. The majority of reported AIDS cases in Ontario during this period were from Toronto (59.6%), followed by the Central East, other region at 9.5% and the Central West region at 9.1%.

The proportion of cases with unknown exposure category was much high in the Eastern, other and Northern regions at 25-26%. Over 10% of cases in the Central East, other, Central West and Southwest regions had no information on which to assign exposure category.

**Table 2.12** shows AIDS cases adjusted for unknown exposure category by exposure category and health region from 1981 to 2006. MSM constituted 77.0% of cases in Toronto, 61-67% of cases in Ottawa, the Central West and Southwest regions and 48-54% of cases in the Northern, Central East, other and Eastern, other regions. 22.6% of cases from Eastern, other region and 17.3% of cases from the Northern region were IDUs, substantially higher than in other regions. In the Central East, other, Central West and Southwest regions, the heterosexual category constituted 14-21% of AIDS cases and represented the second highest proportion after MSM. In Ottawa, HIV-endemic cases represented the second highest category, with 13.7% of AIDS cases.

**Table 2.13** shows a similar analysis to Table 2.11 for 2006. Toronto continued to report the majority (51.6%) of AIDS cases in Ontario, followed by the Central West region at 16.4%. More than half of cases from the Eastern, other, Northern and Ottawa regions had no information to assign exposure category.

**Table 2.14** shows a similar analysis to the previous table but adjusted for unknown exposure category using the proportion among the known cases from 2000 to 2004 stratified by sex and health region. Of the 128 AIDS cases diagnosed in 2006, 42.7% were among MSM, 24.4% among persons from HIV-endemic countries and 17.4% among persons infected through heterosexual contact.

**Table 2.15** shows the single and multiple exposures among Ontario AIDS cases since the beginning of the HIV epidemic. Note that the sums for several categories do not correspond to the numbers of persons infected classified by exposure category (e.g. Table 2.2). 917 (15.6%) of the 5,875 AIDS cases among MSM also reported sex with women (i.e. bisexual). Also of note is that, of the 216 MSM who were from HIV-endemic countries, 74 (34.3%) were also bisexual. Thus, MSM from HIV-endemic countries were 2.3-fold more likely to be bisexual than other MSM (34.3% versus 14.9%,  $p < 0.0001$ ). MSM-IDU also reported higher rates of sex with women than MSM alone; 96 (29.9%) of 321 MSM-IDU versus 821 (14.8%) of 5,554 MSM reported sex with women ( $p < 0.0001$ ).

**Table 2.16** presents reported AIDS cases by year of diagnosis and health region. The proportion of Ontario cases reported from Toronto decreased from an average of 63% of cases diagnosed from 1981 to 1996 to 53% from 1997 to 2006. Using a three-point moving average to reduce the year-to-year variation, the proportion of cases from Ottawa (7.7% overall) was relatively stable from 1984 to 1995 at about 7%, increasing to 11% from 1996 to 2001 and then decreasing in the most recent three years. From 2001 to 2006, the proportion of cases from the Northern, Eastern, other, and Central West increased gradually. However, the proportion of cases from the Southwest and Central East, other regions decreased slightly.

**Table 2.17** shows the cumulative number of AIDS cases and incidence rates per 100,000 population by health region and sex from 1981 to 2006. Not surprisingly, the rates were highest in Toronto at 204.0 per 100,000, intermediate in Ottawa with a rate of 85.1 and lowest in the other five regions, from 30 to 45. Female AIDS cases represented greater than 10% of AIDS in five health regions, namely the Central East, other, Northern, Ottawa, Eastern, other and Central West regions. The M:F ratio for AIDS incidence varied by region, with the highest at 16.1 in Toronto and the lowest at 5.2 in the Northern region.



**Table 2.18** presents the number of AIDS cases and rate per 100,000 by public health unit and sex. We observed a marked variation in AIDS incidence rates among the public health units, varying from a low of 13.0 per 100,000 in Porcupine to a high of 204.0 in Toronto. 31 of the 36 public health units had rates less than 50 per 100,000. The other four units experienced intermediate rates as follows: Ottawa (85.1 per 100,000), Middlesex-London (67.8), Windsor-Essex (63.0) and Hamilton-Wentworth (52.0 per 100,000).

### 3.3 Prenatal HIV testing and mother-infant HIV transmissions

#### 3.3.1 Uptake of HIV testing in pregnancy

**Table 3.1** shows HIV test uptake during pregnancy by quarter from January 1999 to December 2006. Prenatal HIV test uptake during pregnancy (i.e. "current") increased markedly over the eight-year period, from 40.6% in 1999 to 88.6% in 2006. Uptake was 90.1% in the latest quarter.

Test uptake increased an average of 1.5% per quarter until the second quarter of 2004, with several exceptions: from the first to second quarters of 1999, uptake increased 7.7% (from 33.5% to 41.2%) and, from the third to fourth quarters of 2001, test uptake increased 11.9% (from 54.7% to 66.6%). Since then, HIV test uptake among pregnant women increased at low rate, with an average of 0.6% increase per quarter.

**Table 3.2** shows the uptake of HIV testing during pregnancy by health region and public health unit in Ontario in 2006. Uptake was 88-90% in all health regions. Not surprisingly, there was considerably more variation in HIV test uptake among public health units than regions. 44.4% (16) public health units had an HIV test uptake of 90% or greater. Four public health units had an uptake of less than 85% (Simcoe-Muskoka at 82.6%, Porcupine at 82.0%, Chatham-Kent at 82.5% and Niagara at 84.5%). The uptake rate was 85-89% for the remaining public health units.

**Table 3.3** shows the number and rate of HIV-positive tests in pregnant women by quarter from January 1999 to December 2006. Since January 1999, we have identified 297 HIV-infected pregnant women, for an overall rate of 0.34 per 1,000 (297/874,988). In 1999, the HIV prevalence rate was 0.19 per 1,000, increasing to 0.35 per 1,000 in 2000 and 0.51 per 1,000 in 2001. In 2005 and 2006, the rate decreased to 0.22 and 0.23 per 1,000, respectively. 211 women were diagnosed with HIV during pregnancy and 86 women prior to the pregnancy.

**Table 3.4** presents the cumulative number and HIV positivity rate in pregnant women by health region and public health unit from January 1999 to December 2006. During the eight years, 137 (46.1%) of HIV-positive pregnancies were from Toronto, 45 (15.2%) from Ottawa, 39 (13.1%) from Central East, other and 38 (12.8%) from Central West regions, with 12.8% in the three other regions.

The HIV positivity rate varied by health region, from 0.13 to 0.65 per 1,000. With respect to public health unit, Toronto had the highest rate at 0.65 per 1,000. The second highest HIV positivity rate was in Ottawa at 0.61 per 1,000, followed by Hamilton-Wentworth at 0.57 per 1,000. The rates varied from 0.00 to 0.39 per 1,000 in the other 33 PHUs. Nine PHUs observed a positivity rate from 0.25 to 0.39 per 1,000 and 14 from 0.07 to 0.24; 10 public health units identified no HIV-positive prenatal tests.

### 3.3.2 HIV-infected mothers and their infants

**Table 3.5a** presents the number of HIV-infected mothers and their infants in Ontario identified through the Canadian Pediatric AIDS Research Group (CPARG) by the infant's year of birth from 1984 to 2006 and by HIV infection status of the infant. This table includes children born in Canada and elsewhere.

In all, 766 HIV-infected women were identified; 187 infants were confirmed HIV-infected and, of these, 41 (21.9%) died. 548 infants were not infected and the infection status for 31 infants was pending or unknown. The annual number of HIV-infected women giving birth included in the database generally increased over time, reaching a peak of 76 in 2006.

The reported number of HIV-infected children increased from five in 1984 to a high of 21 in 1992, and then gradually decreased to two per year in the most recent three years from 2004 to 2006. Note that most HIV-infected children may be diagnosed many years after birth and, therefore, the decrease observed in the most recent years is likely, at least in part, artefactual.

**Table 3.5b** shows data similar to Table 3.5a limited to cases where the infant was born in Canada. For this analysis, we assumed that the 44 infants for whom the country of birth was missing were born in Canada. Among the 695 children included, 125 (18.7%) were confirmed to be infected with HIV, of whom 35 children have died from AIDS. A similar pattern to the previous table was observed, with an increase in the number of mothers and a trend to a decreasing number of HIV-infected infants in the most recent years.

**Table 3.5c** presents the number of HIV-infected infants born in Canada to HIV-positive mothers by year of birth adjusted for delay in diagnosis. Only 36.0% (45/125) of infected children were diagnosed in the year of birth and 80.0% were diagnosed within 3 years after birth (data not shown). Taking into account delay in diagnosis, the adjusted total number of HIV-infected children to the end of 2006 is 135 (95% confidence interval, 125-157). After reducing the year-to-year variation using smoothing (**Figure 3.1**), the number of mother-infant HIV transmissions peaked at 10 per year in 1993 through 1995 and decreased to about 3-4 per year in the most recent period from 2001 to 2006. Thus, the decreasing trend in the number of HIV-infected infants since the peak is not likely due entirely to artefact (See Discussion below). Nevertheless, there is modest increasing trend in the most recent two years.

**Table 3.6a** shows the distribution of HIV-infected mothers by geographic region of the treating institution and the mother's exposure category. Overall, 59.0% of HIV-infected women were from HIV-endemic countries, 28.0% were others infected by heterosexual contact and 11.9% were IDU. 62.3% of cases were reported from the Hospital for Sick Children in Toronto and 23.9% from the Children's Hospital of Eastern Ontario in Ottawa, accounting together for 86.2% of Ontario cases. Compared to Toronto and Ottawa, in the other geographic regions, the proportion of mothers born in HIV-endemic countries was much lower and the proportion of women infected by heterosexual transmission was much higher; these difference were statistically significant ( $p < 0.001$  for both comparisons). The proportion of IDUs in Ottawa was higher than in other geographic regions ( $p < 0.05$ ).

**Table 3.6b** shows the distribution of the 695 cases as in Table 3.6a but limited to cases in which the infant was born in Canada. A similar distribution of geographic region and mother's exposure category as for all cases was observed.

**Table 3.7a** shows the 187 infants confirmed to be HIV-infected by geographic region of the treating institution and mother's exposure category. 67.8% were born to mothers from HIV-endemic countries and 22.6% to other mothers infected by heterosexual transmission. These two mother's exposure categories accounted for 90.4% of HIV-infected infants. The proportion of infants infected by mothers who were IDUs represented 6.8% of cases overall. 64.7% of cases were from Toronto and 23.5% from Ottawa. The proportion of women infected by heterosexual contact was significantly higher in the other geographic regions than in Toronto and Ottawa ( $p=0.02$ ). Although the proportion of women infected from HIV-endemic countries was lower in the other geographic regions than in Toronto and Ottawa, the differences were not statistically significant ( $p>0.05$ ).

**Table 3.7b** shows a similar analysis to that in Table 3.7a for the 125 HIV-infected infants born in Canada. 56.3% were born to mothers from HIV-endemic countries and 32.8% to other mothers infected by heterosexual transmission. These two exposure categories accounted for 89.1% of HIV-infected infants. Similar to the previous table, the majority of cases (66.4%) were from Toronto. The proportion of women infected from HIV-endemic countries and the proportion of women infected by heterosexual contact were not significantly different among the geographic regions.

**Table 3.8a** presents the trends in the distribution of the mother's exposure category during the 23-year study period for HIV-infected infants. There was no increasing or decreasing trend in the proportion of infants born to IDU mothers. Generally, 60-85% of HIV-infected infants were born to women from HIV-endemic countries; however, this was lower in 1987 to 1988 (36.4%). The proportion of HIV-positive infants born to other mothers infected heterosexually varied considerably from period to period, from 20 to 40% with no apparent increasing or decreasing trend.

**Table 3.8b** presents the trends in mother's exposure categories by two-year period during the 23-year study period for HIV-infected infants born in Canada. Similar trends in mother's exposure patterns as in the previous table were observed.

**Table 3.9** shows an analysis of mother-infant pairs for infants born in Canada from July 1994 to December 2006 by mother's exposure category, HIV prophylaxis and infant's HIV status (this period was selected to examine the impact of the results of the ACTG 076 trial released in February 1994).

Overall, 568 HIV-infected women delivering an infant during this period were identified. Mothers from HIV-endemic countries constituted over half (56.3%) of cases, 25.9% were other women infected heterosexually and 10.4% were IDUs.

The proportion of women who received therapy constituted 84.9% of cases for whom therapy status was known, with no significant variation by mother's exposure category. Overall, 60 (11.1%) of cases with known HIV status infants became infected. However, only 2.0% (9/456) infants with known HIV status where antiretroviral prophylaxis was received became infected, compared to 60.0% (48/80) infants where treatment was not given. This 30-fold difference in transmission rate was statistically significant ( $p<0.00001$ ).

With respect to mother's exposure category, for IDU, one (2.3%) infant with treatment was

infected compared to three (23.1%) infants among those without treatment ( $p=0.03$ ). For women in the heterosexual and HIV-endemic categories, the HIV infection rates were significantly lower among those with therapy compared to those without therapy (heterosexual: 2.5% vs. 70.6%,  $p<0.00001$ ; HIV-endemic: 1.5% vs. 70.2%,  $p<0.00001$ , respectively).

**Table 3.10** shows the data for the same period (i.e. the period following the ACTG 076 trial) by year of birth, antiretroviral prophylaxis (yes/no) and HIV infection status of the infant; six cases with unknown therapy status were excluded from this analysis. The proportion of women who received prophylaxis was 84.9% overall, but about 95% in the most recent five years and reached 100% in 2006.

57(10.6%) of 536 infants with known prophylaxis and HIV infection status became infected. As in the previous table, 2.0% of treated infants and 60.0% of untreated infants became infected ( $p<0.00001$ ). Since there were relatively few infected cases each year, it was difficult to detect a trend in the infection rate over time. However, when grouped into three periods of four years each, we observed a decreasing trend in infection rate among those who received prophylaxis: the infection rate decreased from 3.8% in 1994-1997 to 2.4% in 1998-2001 and 1.4% in the most recent five years; this decrease, however, was not statistically significant.

### 3.4 HIV-related mortality

**Table 4.1** presents the number and rate of HIV-related deaths by year of death and sex from 1987 to 2005. Overall, 6,162 deaths were identified during this 19-year period. HIV-related deaths and mortality rate per 100,000 increased from 1987 to a peak in 1995 and then declined dramatically thereafter. Overall, the mortality rate decreased 76% from 1995 to 1998 (a decrease of 77% in males and 32% in females), remained relatively stable at average of 1.3 per 100,000 from 1998 to 2005. 93.0% of HIV-related deaths were among males. The ratio of mortality rates among males compared to females decreased markedly from an average of 22-fold in 1987 to 1996 to 7-fold in 1997 to 2005.

The trends in HIV-mortality in the more recent years are in part related to changes in the criteria introduced by the transition from the ICD-9 to ICD-10 disease classification system in 2000. This transition leads to an estimated 10.1% increase in the number of HIV-related deaths recorded <14>. Taking this into account produces a slightly different shape of the mortality curve, whereby mortality decreased dramatically from 1995 to 1997, more gradually from 1997 to 2001 and then stabilized since (**Figure 4.1**).

**Table 4.2** shows the number and proportion of HIV-related deaths by age at the time of death and sex for the period 1987 to 2005. Overall, 67.8% of HIV deaths occurred among persons aged 30 to 49 years (68.1% of deaths in males and 64.7% of deaths in females). Overall, the median age at death was 40 years (40 years for males and 38 years for females).

**Table 4.3** presents the number and proportion of HIV-related deaths by health region of residence at time of death and sex for the period 1987 to 2005. 56.6% of deaths occurred among residents of Toronto (58.0% of deaths in males and 38.1% of deaths in females). Residents from the Central East, other, Central West, Ottawa and Southwest regions comprised about 8-10% each of HIV-related deaths in Ontario.



**Table 4.4** shows HIV-related deaths by year of death, sex and region of birth (HIV-endemic versus non HIV-endemic) from 1987 to 2005. In all, 473 persons from HIV-endemic countries died, representing 7.7% of HIV-related deaths. 25.4% of deaths in females were among persons from HIV-endemic countries compared to 6.4% of deaths in males. The proportion of total deaths among persons from HIV-endemic countries has increased steadily since 1993, from an average of 5.4% in 1987-93, 8.0% in 1994 -97, 11.9% in 1998-2002, and 15.4% from 2003-05.

**Table 4.5** presents the number and proportion of HIV-related deaths by year of death among persons from HIV-endemic region by Caribbean versus sub-Saharan Africa and from non HIV-endemic regions. 63.4% of deaths due to HIV in persons from HIV-endemic countries were among persons from the Caribbean. The trends in mortality were different in the three groups. Among persons from the Caribbean, deaths appeared to peak in 1994 and 1995 and decreased to lower numbers since 1997. Among persons from sub-Saharan Africa, after an increase in deaths from 1987 to 1993, there has been no obvious increasing or decreasing trend subsequently. Among others, deaths reached a peak in 1995 and decreased sharply to 1998 and has been relatively stable since.

### 3.5 HIV incidence based on the detuned assay

**Table 5.1** presents the total number of HIV tests and HIV incidence rate calculated from the detuned assay for selected exposure categories in Ontario from 2001 to 2006. (Note that we have not included an analysis among persons from HIV-endemic countries since many of these infections are with non-B viral subtypes and the detuned assay has not been validated for these strains.) The calculated HIV incidence rate per 100 person-years during the five-year period was 1.79 among MSM, 2.98 among MSM-IDU, 0.22 among IDUs and 0.022 among persons infected through heterosexual contact. Compared to 2001, the calculated HIV incidence rate in 2006 was higher for MSM-IDU, lower for IDU and similar for the MSM and heterosexual exposure categories.

**Table 5.2** presents the HIV incidence rate by year from 2001 to 2006 adjusted for testing bias using the approach described above in Section 2.5. in Methods. The adjusted HIV incidence per 100 person-years during the five-year period was 1.19 among MSM, 2.09 among MSM-IDU, 0.18 among IDUs and 0.017 among persons through heterosexual contact. The HIV incidence rate calculated directly from the detuned assay was generally, though not always, overestimated. The decrease resulting from the adjustment procedure was greatest among MSM and least among IDU.

We examined the trend in adjusted HIV incidence for each exposure category by fitting to a line with a fixed annual percentage change. For MSM and IDU, we observed a small annual decrease of about 1%. For the heterosexual category, we observed no change. None of these three trends were of not epidemiologically importance. However, for MSM-IDU, we observed a marked annual increase of 39% in the five-year period.

**Table 5.3** and **Figure 5.1** show the HIV incidence rate (calculated and adjusted) per 100 person-years among MSM by year and health region from 2001 to 2006. Adjusted incidence in MSM over the five-year period was higher in Toronto and Ottawa than elsewhere (1.50 and 1.56 vs. 0.63). For Toronto, the trend analysis revealed a modest 4.9% annual decrease in incidence

and, for Ontario, other a modest 4.8% annual increase. Incidence among MSM in Ottawa was essentially unchanged.

**Table 5.4 and Figure 5.2** show HIV incidence rate (calculated and adjusted) among MSM-IDU. Overall, Toronto experienced the highest adjusted incidence at 3.35 per 100 person-years, followed by Ottawa at 2.89; incidence was 1.15 elsewhere in Ontario. In all three regions, adjusted HIV incidence among MSM-IDU increased from 32-34% annually.

**Table 5.5 and Figure 5.3** show HIV incidence rates (calculated and adjusted) among IDUs by region from 2001 to 2006. Overall, Ottawa had the highest adjusted incidence of 0.35 per 100 person-years. For Ottawa, the trend analysis revealed a modest 5.8% annual decrease in incidence whereas for Toronto and Ontario other, HIV incidence among IDU was essentially unchanged.

**Table 5.6 and Figure 5.4** show HIV incidence rate (calculated and adjusted) per 100 person-years among persons infected through heterosexual contact. Overall, Toronto experienced the highest adjusted incidence of 0.023, followed by 0.015 in Ottawa and 0.012 elsewhere. In all three regions, adjusted HIV incidence among the heterosexual category was essentially unchanged (all annual changes <1%).

### 3.6 Ontario HIV model

As in previous years, we estimated HIV incidence, prevalence, HIV diagnoses, AIDS incidence and prevalence, as well as HIV-related mortality, for each year from 1977 to 2006 for each exposure category, namely MSM, MSM-IDU, IDUs, HIV-endemic, heterosexual, clotting factor and blood transfusion recipients, and for Ontario as a whole. Sex-specific incidence and prevalence data for each of first five selected exposure categories are presented as figures. More detailed outputs are available from the authors on request.

**Table 6.1** presents the summary results of the Ontario HIV model which includes all exposure categories. We estimated that 34,941 persons in Ontario have been infected since the HIV epidemic began until December 2006. As of end-2006, 9,116 persons have died (including 7,880 from HIV-related causes [shown in table] and 1,235 from other causes), leaving 26,356 persons living with HIV infection. An estimated 16,561, or 63%, of those living with HIV have been diagnosed.

HIV incidence increased steeply from 81 new infections in 1977 to a peak of 1,898 in 1984. Since then, HIV incidence decreased and remained relatively stable at an average annual incidence of 1,090 from 1988 to 1997. Since then, HIV incidence it gradually increased its highest in recent years to 1,802 in 2006. Note that incidence in 2006 has almost reached the same level as during phase of the rapid spread in the early phase of the epidemic. During the ten-year period from 1996 to 2006, HIV incidence increased 75%, for an average annual increase of 5.8%.

HIV prevalence also increased over time, due to both an increasing HIV incidence in some categories and decreasing mortality related to HAART. In the ten-year period from 1996 to 2006, HIV prevalence in Ontario increased 79%, with an average annual increase of 6.0%. In the same period, estimated HIV-mortality decreased 63%, with an average annual decrease of 9.4%.



In the five years since 2001, HIV incidence increased 27%, for an average annual increase of 4.8% and HIV prevalence increased 38% for an average annual increase of 6.7%.

**Table 6.1a** presents the results of the model for MSM. We estimated that 21,423 MSM have been infected with HIV from 1977 to 2006. As of December 2006, 6,239 HIV-infected persons had died, of whom 5,767 died due to HIV-related causes; 15,656 persons were living with HIV infection, representing 59% of persons living with HIV infection in Ontario. Of these, 10,426 (66.6%) have been diagnosed. The estimated HIV incidence rate among MSM was 1.17% in 2006, with 888 persons being newly infected. In the five years since 2001, HIV incidence increased 26% for an average annual increase of 4.8% and HIV prevalence increased 31% for an average annual increase of 5.5%. From 1996 to 2006, HIV incidence in MSM almost doubled.

**Figure 6.1** graphically depicts the modeled HIV incidence and prevalence among MSM in Ontario from 1977 to 2006. HIV prevalence appeared to follow three phases, a sharp increase from 1977 to 1989, relatively stable from 1990 to 1998 and a steep increase after 1999. HIV incidence increased dramatically from 1977, reaching a peak of about 1,600 cases in 1984, then decreasing about 50% in 1988 and continuing to decrease to its lowest point in 1996. However, since 1996, it has gradually increased; HIV incidence among MSM was 94% higher in 2006 than in 1996.

**Table 6.1b** presents the modeled results for the MSM-IDU exposure category. In all, 1,258 MSM-IDU have been infected with HIV in Ontario. As of December 2006, 546 persons had died, 375 from HIV-related causes; thus, 712 persons were estimated to be living with HIV infection. The HIV incidence rate among MSM-IDU was 2.5% in 2006. Annual HIV incidence has been relatively stable at about 40 to 50 new infections since 1997. HIV prevalence among MSM-IDU was 29% greater in 2006 than in 2001, for an average annual increase of 5.2%.

**Figure 6.2** shows trends in HIV prevalence and incidence for the MSM-IDU category. These trends were similar to those among MSM in Figure 6.1 above.

**Table 6.1c** displays the modeled results for IDU. We estimated that, in all, 2,704 IDUs have been infected with HIV from 1977 to 2006. As of December 2006, 769 persons had died, of whom 390 were from HIV-related causes, leaving 1,935 living with HIV infection. HIV-infected IDUs represented 7% of persons with HIV infection living in Ontario in 2006. The HIV incidence rate among IDU was 0.22% in 2006. HIV incidence gradually increased from 1981 to a peak of 188 in 1993, then decreased and has remained relatively stable at about 80 new infections annually in 2000 to 2006. HIV prevalence increased 10% over the five years from 2001 to 2006, for an average annual increase of 1.9%.

**Figure 6.3** shows the sex-specific HIV incidence among IDUs from 1977 to 2006. Though incidence was about 2.3 times higher in men, the trends over time were similar in both sexes. We observed a steep increase in HIV incidence from 1982 to 1993, then a decrease from 1995 to 2002. HIV incidence increased to a slightly higher level after 2003.

**Figure 6.4** presents sex-specific HIV prevalence among IDUs from 1977 to 2006. Prevalent HIV infections increased after 1982, though with a lower rate of increase from 1996 to 2006. The slope was steeper in men than in women.

**Table 6.1d** displays the model results for persons from HIV-endemic countries. We estimated that 4,629 persons from HIV-endemic countries were infected with HIV since the beginning of the

epidemic in Ontario. Of these, 4,181 were estimated to be alive as of December 2006, representing 16% of HIV-infected persons living in Ontario. HIV incidence as well as prevalence has steadily increased in this population: in the five years since 2001, HIV incidence increased 33%, for an average annual increase of 5.9%. The increase in HIV prevalence during this same period was more dramatic, increasing 72% for an average annual increase of 11.5%.

Please note some of these "incident" infections were among persons infected before their arrival in Canada and some were acquired since their arrival. A more detailed report on this population was prepared in 1998 <15> and updated in 2002 <16>.

**Figure 6.5** displays sex-specific trends in HIV incidence among cases from HIV-endemic countries. We observed a steep increase among females over the entire period examined. For males, HIV incidence increased steeply from 1988 to 1993 and then again in 1998 through 2001; it was relatively stable at the highest level ever from 2002 to 2006.

**Figure 6.6** displays sex-specific trends in HIV prevalence among cases from HIV-endemic countries. This figure shows similar steep increases in both sexes.

**Table 6.1e** presents the results for the heterosexual exposure category. The model estimated that 4,401 persons were infected heterosexually (other than those from HIV-endemic countries) from 1977 to 2006, of whom 3,715 were living with HIV as of December 2006. This category represented 12% of persons living with HIV in Ontario in 2006. 48% of persons living with HIV in 2006 have been diagnosed. In the five years since 2001, HIV incidence increased 27%, for an average annual increase of 5.0%, and HIV prevalence increased 70%, for an average annual increase of 11.2%.

**Figure 6.7** shows sex-specific trends in HIV incidence among cases infected through heterosexual contact. HIV incidence was low and stable until 1985. It increased every year from 1984 through 2006, though with a lower rate of increase from 1998 to 2006.

**Figure 6.8** shows sex-specific trends for HIV prevalence among cases infected through heterosexual contact. The rate of increase in HIV prevalence continued to increase over the entire period examined, approximating an exponential curve.

**Table 6.2** shows the distribution of HIV diagnoses as a proportion of HIV-infected persons as of December 2006 by sex and exposure category. Almost all persons infected through the receipt of clotting factors and blood transfusions have been diagnosed. In contrast, 67% of HIV-infected MSM, 68% of HIV-infected MSM-IDU and 70% of infected IDUs living in 2006 have been diagnosed. Only 59% of persons from HIV-endemic countries and 48% of persons infected heterosexually have been diagnosed.

According to our analyses, MSM and persons infected heterosexually comprised 54% and 20%, respectively, of those still undiagnosed. Persons from HIV-endemic countries represented 18% of undiagnosed persons. Among females, persons infected through heterosexual contact represented 65% of undiagnosed infected persons.

**Table 6.3a** presents the modeled prevalence of HIV infection in Ontario by health region and exposure category as of December 2006. The majority (16,550 or 63%) of infected persons were from Toronto and 3,090 (12%) from Ottawa. MSM accounted for 59% of HIV-infected persons

living in Ontario, followed by 16% for persons from HIV-endemic countries and 14% for persons infected through heterosexual contact and 7.3% for injection drug users.

The distribution of exposure category varied by region. MSM accounted for 67% of HIV-infected persons in Toronto but only 28% in the Northern region. IDUs accounted for 24-28% of infected persons in the Northern and Eastern, other regions but only 4% in Toronto. The proportion of infected persons from HIV-endemic countries varied from 4% in the Northern region to 25% in Ottawa; it was 15% in Toronto. The proportion of persons infected through heterosexual contact varied from 11% in Toronto to 34% in the Northern regions.

**Table 6.3b** presents the regional HIV prevalence estimates in 2006 stratified by sex. 84% of HIV-infected persons were male and 16% female. 49% of infected females lived outside of Toronto compared to 35% of infected males who lived outside Toronto ( $p < 0.0001$ ).

In Ontario overall, the majority of cases among males were MSM; however, this varied from a low of 49% in the Northern region to a high of 77% in Toronto. The majority of cases among females were infected by heterosexual contact, with a low of 35% in Ottawa and a high of 66% in the Southwest region. Women from HIV-endemic countries accounted for 46% of infected women in Toronto and 45% in Ottawa. IDUs accounted for 37% and 31% of infected females in the Northern and the Eastern, other regions, respectively.

**Table 6.4** shows modeled estimates of the number of incident HIV infections by sex, region and exposure category in 2006. Because of the limited available data, all regions outside of Toronto and Ottawa were considered together. Overall, we estimated that 1,800 new HIV infections occurred in Ontario in 2006, 1,380 (77%) among men and 420 (23%) among women. 63% of new HIV infections in Ontario occurred among residents of Toronto (65% in males and 55% in females). By exposure category, about 49% of new HIV infections were among MSM, 24% among persons from HIV-endemic countries, 20% in others infected heterosexually and 4% in injection drug users. We believe that essentially no persons were infected with HIV through clotting factors or blood transfusions in 2006.

**Table 6.5** shows similar modeling as in Table 6.3 and Table 6.4. However, in addition, we present the modeled populations at risk, HIV prevalence rate and HIV incidence rate by health region for selected exposure categories as of 2006. The highest HIV prevalence rate and incidence rate was in Toronto for MSM and heterosexual categories, in Ottawa for IDU and HIV-endemic categories.

#### 4. DISCUSSION

The present report presents HIV and AIDS comprehensive surveillance data and characterizes the evolution of the HIV epidemic in Ontario since the beginning in the late 1970s. 27,621 HIV diagnoses and 8,421 AIDS cases have been reported in Ontario from 1985 to 2006. Using a statistical model, we estimated that cumulatively 34,941 persons in Ontario have been infected with HIV as of December 2006. Of these, 9,116 persons have died, with 86% of deaths from HIV-related causes, leaving 26,356 persons living with HIV infection. The number of HIV diagnoses increased following the introduction of the HIV test in 1985 to a peak of almost 2,100 in 1990. Following this, the number of new diagnoses decreased and has been relatively stable at around 900 from 1997 to 2001. Since then, the number of HIV diagnoses increased and remained at approximately 1,100 each year.

According to the results of our model, HIV prevalence has increased significantly since 1996. In the ten-year period from 1996 to 2006, HIV prevalence overall in Ontario increased 79%, with an average annual increase of 6.0%. This increase was in part related to improved survival among HIV-infected persons due to the introduction of HAART in 1996. The increase, however, is also due to sustained or increasing HIV incidence. Based on new data obtained recently, the number of HIV-related deaths decreased 78% from 1995 to 2005, with a dramatic decrease from 1995 to 1997. Notably, the rules for selecting underlying cause of death changed from the 9<sup>th</sup> revision of International Classification of Disease (ICD-9) to the 10<sup>th</sup> revision (ICD-10) since 2000. This modification results in an estimated 10% increase in the number of HIV-related deaths in a given period <14>. Taking this into account, the true number of HIV-related deaths decreased 80% from 1995 to 2005.

Due to limitations in our data and analytic methods, our results should be interpreted with caution. HIV diagnoses may not be representative of all persons infected with HIV since not all HIV-infected persons have been tested. Furthermore, the date of HIV diagnosis does not reflect the date of infection as persons may be diagnosed many years following infection. Although we believe the methodology used to assign exposure categories to cases without risk factors indicated and to reassign risk factors initially misclassified is valid (see Appendix A), some imprecision is unavoidable due in part to the small number of respondents in the Laboratory Enhancement Study in some exposure categories.

With respect to AIDS cases data, we experienced some difficulties with the transition from the RDIS to the iPHIS information system in 2005 (see Methods 2.2.1). Therefore, we used data from RDIS for this report if a case was present in RDIS, which constituted 93% of cases. Data on 7% of cases were obtained from iPHIS, which comprised 2.2% of cases diagnosed in 1985-1993, 4.2% in 1994-1999, 14.0% in 2000-2004, 71.3% in 2005 and 100% of cases in 2006. Overall, the proportion of cases classified as 'No identified Risk' was 7.0% (51.5% of cases from iPHIS and 3.6% of cases from RDIS without information on risk factors). Although we reassigned cases with missing data based on the distribution among cases with known exposure category stratified by sex, health region and year of diagnosis, this method may not accurately reflect the true distribution of exposure category for those cases.

In addition, reported AIDS cases are subject to under-reporting and reporting delay; the latter is particularly a problem for cases diagnosed in the most recent years. Because of this, we adjusted for reporting delay in our model and, after adjustment, AIDS incidence increased 80% since its low in 2000.



In January 2002, Citizenship and Immigration Canada began requiring routine HIV screening for applicants as part of the immigration medical examination and also reduced restrictions on some immigrants who would have previously been considered medically inadmissible <17>. Due to this change in policy, the number of HIV diagnoses in some categories increased. Also, the number of tests carried out at the Ontario HIV Laboratory for visa applications increased dramatically, from 1,294 in 2001 to 38,712 in 2006 (a 29-fold increase). The number of HIV-positive visa applicants increased from 6 in 2001 to 221 in 2006. This change likely accounted for a significant proportion of the increase in HIV diagnoses overall observed in Ontario from 2001 to 2006.

Females represent a growing proportion of HIV infections in Ontario: we estimated that 3,895 females were infected with HIV as of December 2006, representing 15% of HIV-infected persons in Ontario. The proportion of HIV diagnoses in females increased continuously since HIV testing began, from about 2% in the early years of testing to almost 30% in 2006. From 2001 to 2006, the number of HIV diagnoses in females increased by 47% (from 230 to 337 cases); this dramatic increase accounted for 54% of the increase in HIV diagnoses observed during this period. The increase in HIV diagnoses among females may be partly attributed to the changes to policies at Citizenship and Immigration Canada as noted above and the provincial HIV prenatal screening policy begun in 1999.

The Ontario HIV screening program among pregnant women has been very successful. Early detection and systematic antiretroviral prophylaxis has reduced the mother-to-child HIV transmission in Ontario. Uptake of HIV testing in pregnancy dramatically increased, from 41% in 1999 to 89% in 2006. During these eight years, 211 pregnant women were newly diagnosed as HIV-positive in pregnancy. According to data from CPARG Ontario, the number of Ontario HIV-positive mothers giving birth in Canada increased from 36 in 1999 to 74 in 2006. Among 424 HIV-positive pregnant women identified from 1999 to 2006, 92.5% received antiretroviral prophylaxis. The mother-to-child transmission rate among HIV-infected women who received antiretroviral prophylaxis was 1.5%.

The CPARG Ontario surveillance system provides further evidence for the positive impact of this program. According to CPARG data, 125 children born in Canada were infected with HIV from their mothers from 1984 to 2006. After adjusting for delay in diagnosis and reducing year-to-year variation through smoothing, the patterns of mother-infant HIV transmission became clearer and appeared to vary over three time periods: (1) an epidemic period from 1984 to 1994; in this period, the number of infected children increased from two cases in 1984 to 10 cases every year from 1992 to 1995; (2) a plateau from 1996 to 2000 when the number of infected children decreased and remained at about six cases annually; this decrease was likely due to antiretroviral prophylaxis during pregnancy instituted after the results of the ACTG076 trial were published in 1994; and (3) a further decrease to about three cases annually since 2001.

In 2006, most HIV diagnoses in Ontario were reported from Toronto (60%) and Ottawa (13%). Compared to 2001, Toronto and Ottawa experienced a 20% increase in the number of HIV diagnoses. The Central West region, accounting for 10% of HIV diagnoses in Ontario in 2006, experienced the greatest increase in HIV diagnoses in 2006 compared to 2001 (from 60 cases to 118 cases, an increase of 95%).

With respect to exposure category, HIV diagnoses increased most among MSM, persons from HIV-endemic countries and other persons infected heterosexually. From 2001 to 2006, HIV

diagnoses increased in the low-risk heterosexual category by 43% (an excess of 58 cases), HIV-endemic by 31% (an excess of 70 cases) and MSM by 26% (an excess of 106 cases).

The HIV epidemic in Ontario MSM is not yet under control. Although the proportion of HIV diagnoses comprised by MSM gradually decreased from 90% in the late 1980s to about 45-50% in more recent years, the increase in the absolute number of HIV diagnoses among MSM is concerning. Nearly 3,000 MSM were newly diagnosed with HIV since 2000, with a gradual increase in each year. From 2001 to 2006, HIV diagnoses increased 26% (average annual increase 4.8%). This increase in HIV diagnoses could be related in part to an increase in HIV testing: testing among MSM increased by 28% in Ontario in 2006 compared to 2001. Thus, although increased HIV testing appears to account for some of the increase in diagnoses, it is likely due to an increase in HIV incidence as well.

HIV incidence among MSM in Ontario based on the detuned assay was relatively stable at about from 2001 to 2006 at about 1.2 per 100 person-years. However, HIV incidence among repeat testers in this group increased markedly since 1996, from 0.68 per 100 PY to 1.41 per 100 PY in 2006 <18>. We also reviewed the results from modeling carried out by Yan <19> and HIV incidence data from other Canadian cities <20,21>. According to the Ontario HIV model, HIV incidence rate among MSM was 1.17% in 2006 compared to 0.66% in 1996. Modeled annual HIV incidence increased from 458 in 1996 to 888 in 2006, a 1.9-fold increase. Based on these sources and our analysis, we conclude that HIV incidence among MSM has increased substantially since 1996.

The increase we observed in HIV incidence among MSM is of public health concern. Nevertheless, it must be remembered that the majority of MSM practice safer sexual behaviour and are at negligible or no risk of HIV infection. In a study of a cohort of MSM in Montreal, George found that 15%-20% of subjects reported unprotected anal sex, the primary route of infection in this population, in the previous six months <22>. Furthermore, the proportion reporting unprotected sex increased in the period 1996 to 2003. The results from Toronto Pride 2005 Survey found that 62 % of 922 surveyed men (mostly MSM) reported having had a casual male partner in the previous six months; among them 14% report having had unprotected anal intercourse <23>. Thus, the majority of infections may be occurring in the minority of MSM who engage in such behaviour. In this group, HIV incidence could be very high, possibly 5 per 100 person-years or higher.

The reasons for the increased incidence among MSM in Ontario in recent years are not entirely clear. Increased high-risk sexual behavior and sexually transmitted infections (STI) such as syphilis among MSM have been observed in Ontario and elsewhere and are consistent with trends in HIV incidence <24>. The situation in Ontario was recently reviewed and the reasons for the increased HIV incidence in MSM systematically examined <25>. This review identified several factors, contexts and predispositions that may in part explain the increased HIV transmission, which includes: sexual and domestic abuse, sensation-seeking personality and behaviours, personal disruption (such as loss of a job or partner), depression and social isolation, drug and alcohol use, difficulties with condom use (both physiological and symbolic), particular settings and social interactions (e.g., settings which emphasize casual or quick sex; places that emphasize a 'buyer beware' mentality), certain circuits and currents which are supportive of unprotected sex (e.g., barebacking scene) and treatment optimism. The phenomenon of "barebacking" may play a role in increased HIV transmission. In a critical review, Adam indicated that men identifying with bareback language and labels may account for a significant amount of the unprotected sex <25>.



A survey carried out at Gay Pride Day in Toronto in 2005 found that almost half (47.5%) of HIV-positive participants and 14.1% of HIV-negative participants had either unprotected insertive or receptive anal intercourse with a partner of opposite or unknown HIV status <26> and half of the men who reported having unprotected sex with a casual male partner during the previous six months also indicated being part of the "bareback scene" or cruising "bareback websites" <23, 27>. Another potential risk factor for HIV transmission cited by Adam is poor communication in the couple <25>. Condom use tends to decrease with the length of romantic relationship and some men may find it harder to negotiate safety in long-term relationships where partners assume monogamy. The introduction of condoms by one partner may signal distrust or infidelity to the other partner.

The increase in high-risk sexual behavior, STIs and HIV incidence may in part be explained by "prevention fatigue" <28,29> and optimism associated with the advent of HAART <30,31>. Optimism, in particular, has often been invoked as an explanation for unprotected sex. Although several studies found a statistical association between unprotected anal intercourse and agreement with statements taken to be indicative of treatment optimism among gay men with mixed serostatus or HIV-positive status <25,30,31>, it is not clear whether treatment optimism leads to unprotected anal intercourse or that men practicing unprotected anal intercourse rationalize their behaviour in terms of treatment optimism after they have already shifted toward unprotected sex <25>. In the United States, Ostrow found that safer sex fatigue (fatigue in maintaining safer sex practices) was associated with unprotected anal intercourse among HIV-positive gay men but not among HIV-negative gay men <28>. In a recent meta-analysis of treatment optimism published in 2004 <31>, Crepaz concluded that the likelihood of unprotected sexual behaviour was significantly higher in persons who believed that HAART reduces HIV transmission or who were less concerned about engaging in unsafe sex given the availability of HAART (OR=1.82; 95%CI, 1.52-2.17). It is unclear whether these factors are important in Ontario.

An analysis from the Ontario Polaris Seroconversion Study identified a previously unrecognized factor which may play a role in facilitating transmission at another level <32>. In this study, MSM who reported delayed application of a condom during anal receptive intercourse (i.e. who used a condom but only after unprotected penetration before ejaculation) were at significantly and independently increased risk of HIV infection. The authors suggested that HIV transmission in this context may be due to the high infectivity of pre-ejaculate secretions.

In summary, the reasons for increased HIV incidence in MSM are not well understood. Thus, to enhance prevention effectiveness, more research among MSM in Ontario, including the rigorous evaluation of innovative preventive interventions, is critical.

The HIV epidemic among IDUs appears to be under relatively good control; HIV incidence has been stable during the last five years. We estimated 1,935 IDUs were living with HIV infection as December 2006, representing 7% of HIV-infected persons in Ontario. However, IDUs comprised 28% of infected persons in the Northern region, 25% in the Eastern, other region and 16% in Ottawa. HIV prevalence increased 10% during the most recent five years, for an average annual increase of 2%. The relative stability in prevalence is partly due to lower incidence. However, it is also partly due to a higher mortality in IDUs unrelated to HIV infection. In our model, we incorporated an annual non HIV-related mortality for IDUs of 1.5%, compared to 0.20% for MSM. While the stable prevalence and incidence are reassuring for IDUs, it is critical that effective prevention programs be continued in this group.

As indicated above, the number of HIV diagnoses has increased dramatically among persons from HIV-endemic countries. We estimate that 4,181 HIV-infected persons from HIV-endemic countries are living in Ontario as of December 2006; this represents 16% of HIV-infected persons in Ontario.

HIV prevalence in this group increased 72% from 2001 to 2006, an average annual increase of 11.5%. This increase may be in part related to increased HIV testing related to the new immigration rules, as noted above. Most infected persons in this category resided in Toronto (59%) and Ottawa (18%). Though this group has received growing attention in Ontario in the last few years, effective and comprehensive HIV prevention are needed.

We observed a marked increase in modeled HIV prevalence among other persons infected heterosexually: an estimated 3,715 persons infected heterosexually (apart from persons from HIV-endemic countries) were living in Ontario as of December 2006, representing 14% of infected persons in Ontario. HIV prevalence in this population increased 70% in the five years from 2001 to 2006, for a mean annual increase of 11%. We further estimated that 355 persons were newly infected in 2006. The factors involved in this increase are uncertain. To better understand this concerning trend, we recently carried out a special study in Toronto. We selected persons 18 years of age or older not born in sub-Saharan Africa or the Caribbean recently diagnosed with HIV infection from heterosexual contact. We interviewed consenting participants using a standardized questionnaire focusing on factors related to HIV acquisition and testing. From July 2004 and December 2005, we identified 39 eligible persons, of whom 12 were interviewed (three female sex workers, five Canadian-born cases and four cases born outside Canada). We identified several factors that may help to guide prevention efforts. In the FSW and Canadian-born group, 63% had sexual contact with persons from HIV-endemic countries. In general, persons were not aware of their HIV risk at the time of their exposure <33>. Effective prevention policies and programs are needed to address this emerging challenge.

In Ontario, overall, an estimated 37% of HIV-infected persons alive as of December 2006 were unaware of their HIV status. The proportion of HIV infections undiagnosed varied by exposure category, from about 30% among MSM, MSM-IDU and IDUs, about 40% among persons from HIV-endemic countries, and about 52% among persons infected through heterosexual contact. This gap is an important challenge in ensuring access to treatment and preventing HIV transmission. Diagnosis late in the course of HIV infection may result in unnecessary morbidity and premature mortality, limiting the benefits of antiretroviral therapy. Persons who remain undiagnosed and unaware of their HIV infection appear to be at increased risk of transmitting the virus to others. A recent meta-analysis showed that the prevalence of unprotected anal or vaginal intercourse with any partner was an average of 53% (95% confidence interval 45-60%) lower in HIV-positive persons aware of their status relative to HIV-positive persons unaware of their status <34>. A mathematical model estimated that the sexual transmission rate of HIV among those who were unaware of their HIV-positive status was at least 3.5 times that of those who were aware of their HIV-positive status in the United States <35>. Measures to improve test uptake may be targeted to persons at increased risk of HIV infection. Other approaches to access undiagnosed HIV-infected persons should also be explored. A study published in 2005 found that screening for HIV in selected health care services, even in relatively low-prevalence populations, rather than on the basis of risk factors may be cost-effective <36,37>. Routine HIV screening of adults and adolescents visiting health care facilities may help to detect HIV-infected patients earlier <38>. These studies support the new recommendations for HIV testing published by the US Centers for Disease Control in the United States in September, 2006. HIV screening in USA is now recommended for patients aged 13-64 years in all health-care settings after patients are notified that testing will be performed unless they refuse (opt-out screening) <39>.

In summary, the Ontario HIV epidemic has not yet stabilized and appears to be evolving in new directions. Though male-to-male sex remains the predominant mode of HIV acquisition, recent trends in HIV diagnoses have shown substantial increases in the proportion of HIV diagnoses attributed to heterosexual contact including persons from HIV-endemic countries. The use of multiple data sources, especially the Laboratory Enhancement Study continues to provide critical insights into the evolving HIV epidemic. Continued collection of such data will allow us to obtain better estimates of the extent and trend of HIV infection in Ontario and guide prevention policies and programs in Ontario.

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## APPENDIX A EXPOSURE CATEGORY ADJUSTMENTS

Methodology used to adjust for unknown region, unknown sex, known and unknown exposure category among first-time HIV-positive diagnoses, 1985 to 2002 is described.

Adjustments were completed using five main steps; similar steps were carried out for each modified health region then added together to obtain provincial totals. Calculations were completed using Lotus 1-2-3 Release 9 for Windows.

**Step 1: Distribute diagnoses among males, females, unknown sex with unknown region among the males, females, unknown sex in the seven health regions in accordance with the proportion among the known.**

i) Obtain the distribution of HIV-positives for each region, including unknown region, by sex for each year and exposure category

ii) Assign HIV-positives in males, females, unknown sex in Unknown region to the seven health regions in accordance with the distribution among the known.

### Example:

In 1991, Unknown region, exposure category NIR, there were 172 diagnoses in males, 13 in females and 19 in unknown sex. That same year in Toronto, exposure category NIR, 547 cases were among males, 60 among females and 84 among unknown sex. Provincial totals for 1991, exposure category NIR, were 1,058 diagnoses among males, 125 among females and 124 in unknown sex. To allocate the appropriate number of cases by sex with unknown region to Toronto, the formula was;

# Toronto, NIR

$$\# \text{ Toronto, NIR} + \# \text{ Unk region, NIR} \times \frac{\# \text{ Toronto, NIR}}{(\# \text{ Ontario NIR} - \# \text{ Unk region, NIR})}$$

For males, the calculation was;

$$547 + 172 \times [547 / (1,058 - 172)] = 653.2$$

which was the 'adjusted' number of HIV-positives among Toronto males in the exposure category NIR in 1991.

Similarly, the adjusted positives among females, Toronto, exposure category NIR was;

$$60 + 13 \times [60 / (125 - 13)] = 67.0$$

## APPENDIX A EXPOSURE CATEGORY ADJUSTMENTS (CONTINUED)

and for unknown sex;

$$84 + 19 \times [84 / (124 - 19)] = 99.2$$

the adjusted number of HIV-positives among unknown sex, Toronto, NIR in 1991

This procedure was repeated by sex (males, females, unknown), year (1985, 1986, etc. to 2002) and exposure category (MSM, MSM-IDU, etc. Other, NIR) and in this manner, HIV-positive diagnoses in Unknown region were distributed among the seven health regions. Subsequent steps were completed within each of the seven modified health regions.

### **Step 2: Distribute diagnoses in unknown sex between males and females in accordance with the proportion among the known.**

After allocating HIV-positives in Unknown region among males, females, unknown sex in each of the seven regions (Step 1), HIV-positives in unknown sex within each region were allocated to males or females within that region.

#### **Example:**

In 1991 in Toronto, there were 99.2 HIV-positives with unknown sex in exposure category NIR (calculated in Step 1). These were allocated to the adjusted number of males or females in 1991, exposure NIR which had already been adjusted for unknown region. For Toronto men, we used the following formula:

$$\# \text{ males} + \# \text{ unknown sex} \times [\# \text{ males} / (\# \text{ males} + \# \text{ females})]$$

Therefore, the number of HIV-positives among Toronto males in 1991, exposure NIR, adjusted for unknown sex was:

$$653.2 + 99.2 \times [653.2 / (653.2 + 67.0)] = 743.2$$

and among females:

$$67.0 + 99.2 \times [67.0 / (653.2 + 67.0)] = 76.2$$

In this manner, the total number of HIV-positives in Toronto in 1991, exposure category NIR, that is, 653.2 males + 67.0 females + 99.2 unknown sex = 819.4 were adjusted to 743.2 males + 76.2 females = 819.4 HIV positives. This procedure was repeated for each year, each exposure category and each of the seven health regions.

## APPENDIX A

### EXPOSURE CATEGORY ADJUSTMENTS (CONTINUED)

**Step 3: Reallocate diagnoses in each exposure category according to new distribution by the Laboratory enhancement study (LES).**

**Step 3.1** For each exposure category and sex, calculate the LES adjustment factors.

Regions for which reallocation among exposure categories are similar are aggregated. HIV-positive male cases are aggregated into group 1 (Toronto, Central East, Other, Southwest and Central West) and group 2 (Ottawa, Northern and Eastern, Other). Female HIV-positives into group1 (Northern, Central West and Southwest) and group2 (Eastern, Other, Central East, Other, Toronto and Ottawa). Male HIV-negatives in group 1 (Toronto, Central East, Other, Southwest, Central West and Northern) and group 2 ( Eastern, Other and Ottawa). All regions of the female HIV-negatives are grouped together.

So seven adjustment factors specific to those aggregations are calculated.

**Step 3.2** For each sex, each exposure category and each year from 1985 to 2002, calculate the number of cases that are going to be taken away from that exposure category.

**Example:**

Among Toronto males in 1985, there were 114.1 HIV-positives in the MSM category (calculated in Step 2). The LES adjustment factor for the MSM category for that region is 1.4%. Therefore, the number of cases that will be reallocated from that category will be:

$$114.1 * 1.4\% = 1.54 \text{ cases}$$

**Step 3.3** For each sex, each exposure category and each year, calculate the number of cases that will be reallocated to that exposure category.

**Example:**

Among Toronto males in 1985 ,there were 114.1 cases in MSM, 3.0 in MSM-IDU and 105.7 in NIR (Step 2). In Step 3.1, we calculated that only 1.4% of MSM cases in Step 2 will be reallocated to the MSM-IDU category. Therefore, the number of cases that will be reallocated to the MSM-IDU category was:

$$(114.1 * 1.4\%) + (3.0 * 0\%) + (105.7 * 0\%) = 1.54 \text{ cases}$$

**Step 3.4** For each sex, each exposure category and each year, calculate the final reallocated number of cases.

## APPENDIX A EXPOSURE CATEGORY ADJUSTMENTS (CONTINUED)

**Example:**

The MSM category in Toronto males in 1985 has 114.1 cases (step 2), 1.54 cases will be reallocated to another category (Step 3.2) and none will be reallocated to MSM itself (Step 3.3). Therefore, the total number after reallocation will be:

$$114.1 - 1.54 + 0 = 112.5 \text{ cases}$$

**Step 4: Allocate HIV-positives among exposure category NIR to known exposure categories.**

**Step 4.1** For each exposure category, for each sex (males, females) within each year, calculate the proportion of HIV-positives which had that exposure that year.

**Example:**

Among Toronto males in 1991, there were 1.1 HIV-positives with exposure low-risk heterosexual (low-risk hetero), 743.2 positives with exposure NIR (calculated in Step 3) and a total of 1,122.8 positives that year. Therefore, the proportion of HIV-positives in exposure low-risk hetero was:

$$1.1 / (1,122.8 - 743.2) \times 100\% = 0.29\%$$

For Toronto females in 1991, there were 1.4 positives with exposure low-risk hetero, 76.2 positives with exposure NIR (Step 3) and a total of 89.7 positives that year. The proportion of positives in exposure low-risk hetero was:

$$1.4 / (89.7 - 76.2) \times 100\% = 10.4\%$$

**Step 4.2** For each exposure category, for each sex, list the Lab enhancement study (LES) adjustment factors. These factors were specific to males and females for the regions of Toronto, Ottawa and Other. Thus, LES adjustment factors which were calculated for Other were applied to Northern, Central East, Other, Eastern, Other, Southwest and Central West regions. LES adjustment factors were 0.0% for exposures of Clotting factor and Perinatal.

**Step 4.3** For each exposure, each sex, for the years 1999 and 2002 only, calculate the average of the proportion among the known (Step 4.1).

**Example:**

In Toronto males in 1999, the proportion of HIV-positives with exposure MSM was 78.6% and in 2000, was 79.1%, and 75.8% in 2002, giving an average proportion for the three years of 77.8%.



## APPENDIX A

### EXPOSURE CATEGORY ADJUSTMENTS (CONTINUED)

**Step 4.4** For each year for each sex and each exposure category, calculate the "scaled-back" proportion of HIV-positives in that exposure category that year using the formula:

$$\text{proportion among the known} \times (\text{LES adjustment factor} / \text{average proportion in 1999-2002})$$

*component 1*
*component 2*
*component 3*

*Component 1* of the formula takes into account the fact that the proportion of HIV-positives by exposure category has shifted over time, for example, early in the epidemic, most HIV-positives were in the exposure category of MSM but new diagnoses in this group has declined over time. *Component 2* takes into account the inappropriateness of applying in isolation the LES adjustment factors, based on data collected in 1999 and 2002, to HIV-positives diagnosed 10 to 15 years earlier. *Component 3* of the formula incorporates data on HIV-positives which may or may not have contributed to the LES adjustment factors (study questionnaire was not returned).

**Example:**

In Toronto males in 1985, the proportion of HIV-positives among MSM was 96.1% (proportion among the known as calculated in Step 4.1), the LES adjustment factor for Toronto males, MSM was 55.2% (Step 4.2) and the average proportion among the known for 1999 to 2002 was 77.8% (Step 4.3). Using the formula in Step 4.4, the scaled-back adjustment factor for 1985 was:

$$96.1\% \times (55.2\% / 77.8\%) = 68.2\%$$

This step was repeated for each year, each sex and each exposure category. In the event that the LES adjustment factor was 0.0%, we used the proportion among the known, unless the exposure category was Clotting factor or Perinatal, in which cases the adjustment factor remained 0.0% (no HIV-positives from NIR were to be assigned to these two categories).

**Step 4.5** The scaled-back adjustment factors for each exposure category within each year were then standardized to sum to 1.0 since the sum of the proportions calculated in Step 4.4 in each exposure category in each year did not necessarily add to 100%.

**Example:**

In 1985 in Toronto, the sum of the scaled-back proportions calculated in Step 4.4 for males was 68.2%. The proportions in each exposure category were "normalized to 1.0" by dividing the proportion in that exposure category by the sum of the proportions that year. For MSM in Toronto males that year, the calculation was;

$$68.2\% / 71.9\% = 94.8\%$$

## APPENDIX A EXPOSURE CATEGORY ADJUSTMENTS (CONTINUED)

The process was repeated for each exposure category for each sex for each year and in this manner, final adjustment factors were generated for the health region.

### **Step 5: Calculate the final number of diagnoses, adjusted for unknown region, sex, known and unknown exposure, for each year for each sex in each exposure category.**

To calculate the adjusted number of diagnoses for males or females for a given exposure category in a given year, the final adjustment factor calculated in Step 4.5 was multiplied by the number of HIV-positive with unknown exposure that year and added to the HIV-positive tests with known exposure.

#### **Example:**

In Toronto males in 1985, exposure category MSM, the final adjustment factor was 94.8% (Step 4.5), there were 112.5 HIV-positives among MSM that year (adjusted for unknown region, unknown sex and reallocated exposure category) and 105.7 HIV-positives in exposure NIR. Therefore, the adjusted number of HIV-positives among Toronto males in 1985 was:

$$112.5 + 94.8\% \times 105.7 = 212.7 \text{ HIV-positives}$$

This calculation was repeated for each exposure category for each year for HIV-positives among males and females. Ontario totals for each sex by year and exposure category (as seen in Table 1.5), were obtained by summation across the regions.

The same methodology was used to assign HIV-negative diagnoses of unknown region, unknown sex and unknown exposure category for each year 1992 to 2002 to the seven health regions. Regionally adjusted HIV-negative tests per exposure category were summed to provide provincial totals. HIV positivity rates for each modified health region by year of diagnosis (1992, 1993, etc., 2002) and exposure category were calculated using adjusted figures such that the number of HIV tests (adjusted) was the sum of HIV-positives + HIV-negative diagnoses adjusted as described above.

## APPENDIX B METHODOLOGY, ONTARIO HIV MODEL

Our approach to this modelling exercise was to obtain the best possible estimates of the extent and distribution of HIV infection in Ontario using several independent data sources. In particular, we were interested in estimating the fundamental epidemiologic indicators, including incidence, cumulative incidence and prevalence of HIV infection, HIV diagnoses and AIDS from 1978 to December 2002. We also assessed annual and cumulative deaths due to AIDS and, for the first time for most groups, mortality due to other causes over the same period. This year, all modelling was carried out specifically for each exposure category and, in a second stage, interpolated for males and females separately. The Ontario estimates were derived by summing across exposure categories. The model for persons from HIV-endemic countries relied heavily on specific analyses carried out using a different modelling approach carried out in 1999 <1>.

There are a number of additional refinements introduced this year. For the first time, for estimates of incidence, we relied heavily on data from the laboratory enhancement study, in particular, the results of the detuned assay <2> and analyses of HIV incidence among repeat testers <3>. For this purpose, we also attempted to take into account substantial selection biases associated with HIV testing patterns <4>.

To estimate the number of HIV diagnoses, we first adjusted for possible duplicates and then assigned exposure categories for those with missing risk factor information based on the results of the Laboratory Enhancement Study, as outlined in Appendix A. This year, in addition we also took into account the small proportion of cases that were reassigned from their initial exposure category using additional information collected in the supplementary questionnaire. In addition, a proportion of HIV diagnoses among males initially classified as acquired through transfusion and heterosexual contact were reclassified as MSM based on the results of an independent HIV transfusion model <5> and a small validation study carried out in Toronto earlier this year <6>.

Initial estimates related to HIV infection, AIDS incidence and AIDS-associated deaths were entered in a spreadsheet (Lotus 1-2-3, Version 4.0) and indicators estimated based on the following formulas:

Annual HIV incidence in the current and preceding years was summed to estimate cumulative HIV incidence to the end of each year;

- b. Similarly, annual AIDS incidence in the current and preceding years was summed to determine cumulative AIDS incidence at the end of each year;
- c. Annual AIDS mortality in the current and preceding years sums to cumulative mortality at the end of each year;
- d. HIV prevalence was derived by subtracting cumulative mortality from cumulative HIV incidence;
- e. Cumulative AIDS incidence less cumulative mortality yielded AIDS prevalence;
- f. The number of HIV-infected persons diagnosed was derived from HIV test data from the Ontario HIV serodiagnostic laboratory.

## APPENDIX B

### METHODOLOGY, ONTARIO HIV MODEL (CONTINUED)

The specific derivation for each of the parameters used in the models is shown on Table 1.

Table 1	
Parameter	Derivation
Annual HIV incidence	Literature review Detuned assay results Incidence among repeat testers Adjusted to fit cumulative HIV incidence
Cumulative HIV incidence	Previous HIV models based on extrapolations and interpolations back-calculations, Quebec and Canada Cumulative HIV diagnoses and estimates of proportion of infections diagnosed
HIV prevalence	Cumulative HIV incidence less cumulative AIDS mortality Component model
HIV diagnosis	HIV diagnoses from HIV Laboratory adjusted for duplicate results
Cumulative HIV diagnoses	Sum of HIV diagnoses from 1978 to current year
AIDS incidence	Reported cases from the Ontario AIDS Surveillance Program, with adjustments for reporting delays (provided by CIDPC, Health Canada) and under reporting
Cumulative AIDS incidence	Sum of annual AIDS incidence
AIDS prevalence	Cumulative AIDS incidence less AIDS mortality
Annual AIDS deaths	Data from the Office of the Registrar General, corrected for under ascertainment Survival following AIDS
Cumulative AIDS mortality	Sum of annual AIDS deaths

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## **Appendix C HIV diagnoses and AIDS cases by Local Health Integration Network (LHIN) region, Ontario**

### **1. Introduction**

In March 2006, the Ontario government changed the organization of the delivery of health care services through the establishment of 14 Local Health Integration Networks (LHINs) and the Local Health System Integration Act, 2006. LHINs are a critical part of the evolution of health care services in Ontario from a collection of services to a rationalized system that is patient-focused, results-driven, integrated, and sustainable. The legislation places decision-making power at the community level and focuses the local health system on the community's needs, aiming to improve health results for patients in every part of the province.

Many programs in Ontario providing HIV-related services have expressed the need for data and analyses stratified by LHIN. To meet this need, we used available data to carry out a sub-analysis of HIV diagnoses, AIDS and modeled HIV prevalence stratified by LHINs.

### **2. Methods**

HIV serodiagnostic data were obtained from the HIV Laboratory, Central Public Health Laboratory (CPHL) of the Ontario Ministry of Health and Long-Term Care. Two methods were used to determine the distribution of cases by LHIN region: 1) Since 1998, the postal code has been collected for HIV testers on the HIV requisition. LHIN region was derived from the Statistics Canada Postal Code Conversion Files (PCCF + Version 4J) released on January 2007. 2) For those without postal code, we calculated the number of HIV diagnoses or tests by public health unit (PHU), then derived it to LHIN region. However, 10 PHUs straddle more than one LHIN regions (eight PHUs across two LHIN regions, one across three LHIN regions and one across five LHIN regions). We used two health region to 2001 census dissemination area correspondence files in Ontario (PHU and LHIN) from Statistic Canada (<http://www.statcan.ca/english/freepub/82-402-XIE/2007001/corr-en.htm>, accessed Jan 22, 2008) to obtain the proportion of a LHIN region population in 2001 census in a split PHU using SAS program. We then used this proportion to derive the total number of HIV diagnoses or tests in LHIN regions. In this supplement, we presents the data adjusted for unknown LHIN region, sex and exposure category using same technique described in Appendix A in this report. The weight of reallocation of known exposure category and allocation of unknown exposure category for the seven health regions in the original report was used for the 14 LHIN regions.

Data on AIDS cases were obtained from the Public Health Division, Ontario Ministry of Health and Long-Term Care. Since no postal code data were available for reported AIDS cases, LHIN region was derived from PHU using the same technique as for the HIV diagnostic data. In this supplement, we present the data adjusted for unknown exposure category according to the known cases stratified by sex, LHIN region and year of diagnosis.

In this supplement, we present the cumulative number of HIV diagnoses from 1985 to 2006 and AIDS cases from 1981 to 2006 by LHIN region and exposure category stratified by sex, as well data in 2006 only. We also presents cumulative incidence rate per 100,000 of HIV diagnoses and AIDS cases by LHIN region and sex, as well as modeled HIV prevalence by LHIN region and sex.

Due to the limitations of the data, the results should be interpreted with caution.

### 3. Results

**Table S-1** presents the number and proportion of HIV diagnoses by LHIN region and exposure category from 1985 to 2006, adjusted for unknown LHIN region, sex and exposure category. 29.1% of HIV infections were diagnosed in the Toronto Central, followed by 16.5% in the Central, 16.0% in the Central East and 11.8% in the Champlain LHIN region. The South West, Central West, Mississauga Halton, and Hamilton Niagara Haldimand Brant LHIN regions each comprised about 4-5% of HIV diagnoses. Together, the remaining six LHIN regions comprised less than 8% of HIV diagnoses.

The distribution of exposure categories differed markedly across LHIN regions. MSM accounted for above 60% of HIV diagnoses in the Toronto Central, Central, Central East, South West, and Erie St. Clair regions, compared to 31-34% in the North East and North West regions.

The North East and North West regions had the highest proportion of IDU (about 40%), followed by the South East (24.4%), Waterloo Wellington (18.0%) and Champlain (14.5%) regions. The highest proportion of HIV diagnoses comprised by persons from HIV-endemic countries was in Champlain at 20.5%, followed by the North Simcoe Muskoka (15.5%) and Waterloo Wellington (14.5%) LHIN regions.

The proportion of persons infected through heterosexual contact also varied, from a low of 8.5% in the Champlain to 23.3% in North West LHIN regions, with 11-12% in most of the LHIN regions.

**Table S-1a** and **Table S-1b** show data stratified by sex. Again, Toronto Central had the highest proportion of HIV diagnoses in Ontario, with 30.0% of cases in males and 23.5% in females followed by in the Central, Central East and Champlain LHIN regions.

The distribution of exposure categories by region in males was similar to that in both sexes together shown in Table 1. However, among females, IDU accounted for 56-65% of HIV diagnoses in the North West and North East, 35.3% in the South East, 20.1% in the Champlain LHIN and 10-17% in the rest of LHIN regions. The proportion of persons from HIV-endemic countries was above 40% in the Champlain, Toronto Central and North Simcoe Muskoka LHIN regions; proportion of persons infected through heterosexual contact was above 40% in the South East, South West, Erie St. Clair, Hamilton Niagara Haldimand Brant, Central East and Central LHIN regions.

**Table S-2** presents the same analysis for 2006. In 2006, 71% of HIV infections were diagnosed in the Toronto Central, Central, Central East and Champlain LHIN regions. MSM comprised the highest proportion (40-50%) in most LHIN regions; IDU comprised the highest proportion in the North East and North West LHIN regions; persons from HIV-endemic countries accounted for the highest proportion of HIV diagnoses in the Erie St. Clair and Waterloo Wellington LHIN regions; persons infected through heterosexual contact accounted for the highest proportion in the Hamilton Niagara Haldimand Brant and North Simcoe Muskoka LHIN regions.

**Table S-2a** and **Table S-2b** show data stratified by sex. 73% of male and 68% of female diagnoses were in the Toronto Central, Central, Central East and Champlain LHIN regions.

Among males, MSM comprised a substantial proportion of diagnoses in most regions, except three north regions. Among females, 55-100% of HIV diagnoses in the Erie St. Clair, Champlain, Waterloo Wellington, Toronto Central and South West LHIN regions were persons from HIV-endemic countries. Person infected through heterosexual contact comprised most cases in the Hamilton Niagara Haldimand Brant, Central West, Mississauga Halton and Central East LHIN regions. In the Central LHIN region, 42.6% and 41.2% of cases were persons from HIV-endemic countries and persons infected through heterosexual contact, respectively. No female cases were diagnosed in the North Simcoe Muskoka LHIN region in 2006.

**Table S-3** shows the number and rate per 100,000 population of HIV diagnoses for 1985 to 2006 by LHIN region and sex. The population according to 2001 census was used in this analysis; therefore, the overall diagnosis rate in Ontario was slightly different from that in Table 1.15 in this report in which 1996 census population was used. The rate was highest in Toronto Central, at 734.9 per 100,000, high-intermediate in Central (337.6), Central East (328.0) and Champlain (297.4) and low-intermediate in Central West (212.4), South West (158.8), Mississauga (147.27), and South East (116.1) LHIN regions. Rates were 20 to 98 per 100,000 in the six other regions.

The ratio of HIV diagnosis rate among males compared to that among females was from lowest in the North West at 2.3 and highest in Toronto Central at 7.8.

**Table S-4** presents the number and proportion of cumulative reported AIDS cases by LHIN region and exposure category from 1981 to 2006 adjusted for unknown exposure category according to the known cases stratified by sex, LHIN region and period of diagnosis. 26.3% of AIDS cases were diagnosed in the Toronto Central, followed by 16.1% in the Central, 15.8% in the Central East, 8.4% in the Champlain LHIN region, and 1-6% each in the remaining regions. MSM constituted the majority of AIDS cases in all region, although the proportion varied from lowest in the North West at 34.8% to the highest in Toronto Central at 77.0%. 22.0% of cases from the South East, 20.8% of cases from the North West and 17.2% cases from the North East regions were IDUs, substantially higher than in other regions. In the Champlain, HIV-endemic cases represented the second highest category, with 12.8% of AIDS cases. In the Erie St. Clair, South West, Waterloo Wellington, Hamilton Niagara Haldimand Brant, Mississauga Halton and North Simcoe Muskoka LHIN regions, the heterosexual category constituted 12-19% of cases and represented the second highest proportion after MSM. In the North West, the heterosexual category comprised 30.5% of AIDS cases.

**Table S-4a** and **Table S-4b** show the cumulative number of AIDS cases stratified by sex. The regional distribution of exposure categories in males was similar to that in both sexes together shown in Table 4. Among females, IDU comprised highest proportion of AIDS cases in the North East (53.1%), North West (46.9%) and South East (40.7%) regions. Persons from HIV-endemic countries constituted highest proportion of AIDS cases in the Champlain, Toronto Central, Central and Central East regions; persons infected through heterosexual contact comprised the highest proportion of AIDS cases in the remaining regions.

**Table S-5** presents the same analysis for 2006. 62.1% of reported AIDS cases were reported in the Toronto Central, Central, Central East and Hamilton Niagara Haldimand Brant LHIN regions. No AIDS case was reported in the Erie St. Clair region. In 2006, overall 22.7% of AIDS cases in Ontario, more than half of cases from the South West, South East, North West, North East and Champlain regions had no information on exposure category and the adjustment in 2006 was based on the proportion of exposure category among cumulative known cases from 2000 to 2004.

Therefore, the data in this table and Table 5a and Table 5b should be interpreted cautiously.

**Table S-5a** and **Table S-5b** show data stratified by sex in 2006. 66.5% of male AIDS cases were in the Toronto Central, Central, Central East and Hamilton Niagara Haldimand Brant LHIN regions. 68.3% of female cases were in the Toronto Central, Champlain, South West, Hamilton Niagara Haldimand Brant, and North West regions.

**Table S-6** shows the number and rate per 100,000 population of reported AIDS cases for 1981 to 2006 by LHIN region and sex. The population from the 2001 census was used in this analysis; therefore, the total overall diagnosis rate in Ontario was slightly different from the Table 2.18 in this report, in which 1996 census population was used. AIDS incidence rates varied from a low of 24.9 per 100,000 in the Waterloo Wellington region to a high of 202.4 in the Toronto Central region. Between these two extremes were several public health units with intermediate rates including Central (100.0 per 100,000), Central East (98.6), Central West (68.2) and Champlain (54.2).

**Table S-7** presents the modeled prevalence of HIV infection in Ontario by LHIN region and exposure category as of December 2006. 73% of HIV-infected persons in Ontario were from following four LHIN regions: Toronto Central (28%), Central (16%), Central East (16%) and Champlain (13%). MSM accounted for 59% of infected persons living in Ontario, followed by 16% for persons from HIV-endemic countries and 14% for persons infected through heterosexual contact and 7.3% for injection drug users.

The distribution of exposure category varied by LHIN region. MSM accounted for 69% of HIV-infected persons in Toronto Central but only 28% in the North West LHIN region. IDUs accounted for 22-29% of infected persons in the North East, North West and South East regions but only 4% in Toronto Central, Central and Central East regions. The proportion of infected persons from HIV-endemic countries varied from 4-5% in the North East and North West to 24% in Champlain; it was about 15% in most of the other LHIN regions. The proportion of persons infected through heterosexual contact varied from 11% in Toronto Central to 32-35% in the North East and North West regions.

**Table S-7a** and **Table S-7b** presents the regional modeled HIV prevalence estimates in 2006 stratified by sex. 84% of HIV-infected persons were male and 16% female. 74% of infected males and 66% of infected females were from Toronto Central, Central, Central East and Champlain LHIN regions.

MSM comprised the highest proportion of HIV infections among males in each region. However, this varied from a low of 37-40% in the North East and North West region to a high above 70% in Toronto Central, Central, Central East, South West, Erie St. Clair and Central West regions. The majority of cases among females were infected by heterosexual contact, with a low of 35% in Champlain and a high of 68% in the South West region. Women from HIV-endemic countries accounted for 48% of infected women in Toronto Central, 46% in Champlain and 41% in Central and Central East. IDUs accounted for 39-40% of infected females in the North East and North West region and 31% in the South East region.

## TABLES

### Legend

<i>MSM</i>	Men who have sex with men
<i>IDU</i>	Injection drug use(r)
<i>MSM-IDU</i>	Men who have sex with men and use injection drugs
<i>Clotting factor</i>	Clotting factor recipient
<i>HIV-endemic</i>	HIV-endemic country of origin
<i>Transfusion</i>	transfusion recipient
<i>Occupational</i>	Occupational exposure
<i>MTC</i>	Mother-to-child exposure
<i>LR hetero</i>	Low risk heterosexual
<i>HR hetero</i>	High risk heterosexual
<i>Heterosexual</i>	Heterosexual (other) transmission
<i>NIR</i>	No identified risk



**Table 1.1 Number of HIV diagnoses by year of diagnosis and sex  
Ontario, 1985 to 2006**

Year of diagnosis	Males	Females		Unknown	Total
	Number	Number	% female <sup>1</sup>	Number	Number
1985	326	6	1.8%	3	335
1986	1,287	27	2.1%	51	1,365
1987	1,463	35	2.3%	49	1,547
1988	1,327	86	6.1%	30	1,443
1989	1,541	111	6.7%	54	1,706
1990	1,817	158	8.0%	94	2,069
1991	1,545	159	9.3%	124	1,828
1992	1,533	159	9.4%	118	1,810
1993	1,245	171	12.1%	72	1,488
1994	1,045	206	16.5%	61	1,312
1995	1,066	202	15.9%	58	1,326
1996	813	168	17.1%	59	1,040
1997	700	171	19.6%	62	933
1998	723	170	19.0%	65	958
1999	697	169	19.5%	34	900
2000	667	181	21.3%	46	894
2001	701	230	24.7%	31	962
2002	831	281	25.3%	27	1,139
2003	792	297	27.3%	16	1,105
2004	860	299	25.8%	18	1,177
2005	837	272	24.5%	15	1,124
2006	804	337	29.5%	19	1,160
<b>Total</b>	22,620	3,895	14.7%	1,106	27,621

1 Row percent of cases with known sex

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.2** Number and proportion<sup>1</sup> of HIV diagnoses by exposure category and sex, Ontario, 1985 to 2006

Exposure category	Males		Females		Unknown	Total	
	Number	%	Number	%	Number	Number	%
MSM	9,107	77.4%	0	0.0%	0	9,107	67.7%
MSM-IDU	268	2.3%	0	0.0%	0	268	2.0%
IDU	771	6.5%	285	17.7%	28	1,084	8.1%
Clotting factor	252	2.1%	29	1.8%	20	301	2.2%
Transfusion	112	0.95%	89	5.5%	8	209	1.6%
HIV-endemic	261	2.2%	227	14.1%	12	500	3.7%
HR hetero	103	0.87%	358	22.2%	0	461	3.4%
LR hetero	793	6.7%	534	33.2%	0	1,327	9.9%
MTC <sup>2</sup>	67	0.57%	79	4.9%	6	152	1.1%
Other <sup>3</sup>	38	0.32%	9	0.56%	1	48	0.36%
Unknown	10,848		2,285		1,031	14,164	
<b>Total</b>	<b>22,620</b>	<b>100%</b>	<b>3,895</b>	<b>100%</b>	<b>1,106</b>	<b>27,621</b>	<b>100%</b>

1 Column percent of cases with known source of exposure

2 Includes only HIV-infected infants

3 Includes needle-stick, acupuncture, tattoo, etc.

Notes: 1 Assignment to exposure categories based on mutually exclusive hierarchy of risks

2 Modes of transmission were not independently validated

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.3 Number and proportion<sup>1</sup> of HIV diagnoses (adjusted<sup>2</sup>) by exposure category and sex, Ontario, 1985 to 2006**

Exposure category	Males		Females		Total	
	Number	%	Number	%	Number	%
MSM	17,112	72.7%	--	--	17,112	62.0%
MSM-IDU	1,102	4.7%	--	--	1,102	4.0%
IDU	1,508	6.4%	682	16.8%	2,190	7.9%
Clotting factor	273	1.2%	31	0.76%	304	1.1%
Transfusion	226	0.96%	224	5.5%	451	1.6%
HIV-endemic	1,577	6.7%	1,667	41.0%	3,243	11.7%
HR hetero	319	1.4%	585	14.4%	904	3.3%
LR hetero	1,219	5.2%	706	17.4%	1,925	7.0%
MTC <sup>3</sup>	69	0.29%	83	2.1%	152	0.55%
Other <sup>4</sup>	147	0.62%	91	2.2%	237	0.86%
<b>Total</b>	<b>23,552</b>	<b>100%</b>	<b>4,069</b>	<b>100%</b>	<b>27,621</b>	<b>100%</b>

1 Column percent of cases with known source of exposure

2 Unknown sex assigned according to the distribution of those with known sex; unknown exposure category assigned according to proportion among the known and results of the Lab Enhancement Study (see text for more details);, thus, totals may differ due to rounding

3 Includes only HIV-infected infants

4 Includes needle-stick, acupuncture, tattoo, etc.

Notes: 1 Assignment to exposure categories based on mutually exclusive hierarchy of risks

2 Modes of transmission were not independently validated

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.3a** Number and proportion<sup>1</sup> of HIV diagnoses (adjusted<sup>2</sup>) by exposure category and sex, Ontario, 2006

Exposure category	Males		Females		Total	
	Number	%	Number	%	Number	%
MSM	509	62.4%	--	--	509	43.9%
MSM-IDU	23	2.8%	--	--	23	2.0%
IDU	35	4.2%	21	6.0%	55	4.8%
Clotting factor	1	0.12%	0	0.0%	1	0.09%
Transfusion	2	0.25%	3	0.75%	5	0.40%
HIV-endemic	101	12.4%	196	57.1%	298	25.6%
HR hetero	16	1.9%	29	8.6%	45	3.9%
LR hetero	108	13.2%	87	25.3%	195	16.8%
MTC <sup>3</sup>	2	0.25%	4	1.2%	6	0.52%
Other <sup>4</sup>	20	2.4%	4	1.1%	24	2.1%
<b>Total</b>	<b>816</b>	<b>100%</b>	<b>344</b>	<b>100%</b>	<b>1,160</b>	<b>100%</b>

1 Column percent of cases with known source of exposure

2 Unknown sex assigned according to the distribution of those with known sex; unknown exposure category assigned according to proportion among the known and results of the Lab Enhancement Study (see text for more details); thus, totals may differ due to rounding

3 Includes only HIV-infected infants

4 Includes needle-stick, acupuncture, tattoo, etc.

Notes: 1 Assignment to exposure categories based on mutually exclusive hierarchy of risks

2 Modes of transmission were not independently validated

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.4 Number and proportion<sup>1</sup> of HIV diagnoses by year of diagnosis and exposure category  
Ontario, 1985 to 2006**

Year	MSM		MSM-IDU		IDU		Clotting factor		Transfusion		HIV-endemic		HR hetero		LR hetero		MTC <sup>2</sup>		Other <sup>3</sup>		Unk.	Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	No.
1985	166	87.8%	5	2.6%	1	0.53%	10	5.3%	5	2.6%	0	0.0%	1	0.53%	0	0.0%	1	0.53%	0	0.0%	146	335
1986	470	87.5%	11	2.0%	10	1.9%	28	5.2%	9	1.7%	4	0.74%	2	0.37%	0	0.0%	2	0.37%	1	0.19%	828	1,365
1987	856	86.6%	18	1.8%	17	1.7%	47	4.8%	31	3.1%	9	0.91%	3	0.30%	7	0.71%	1	0.10%	0	0.0%	558	1,547
1988	777	80.3%	21	2.2%	42	4.3%	50	5.2%	34	3.5%	18	1.9%	18	1.9%	6	0.62%	2	0.21%	0	0.0%	475	1,443
1989	892	81.8%	25	2.3%	60	5.5%	35	3.2%	20	1.8%	16	1.5%	24	2.2%	12	1.1%	6	0.55%	0	0.0%	616	1,706
1990	831	79.5%	18	1.7%	71	6.8%	47	4.5%	7	0.67%	23	2.2%	35	3.3%	7	0.67%	5	0.48%	1	0.10%	1,024	2,069
1991	430	80.2%	7	1.3%	37	6.9%	16	3.0%	1	0.19%	14	2.6%	15	2.8%	8	1.5%	8	1.5%	0	0.0%	1,292	1,828
1992	572	72.3%	20	2.5%	84	10.6%	14	1.8%	10	1.3%	23	2.9%	25	3.2%	36	4.6%	6	0.76%	1	0.13%	1,019	1,810
1993	454	63.3%	26	3.6%	60	8.4%	16	2.2%	14	2.0%	18	2.5%	42	5.9%	67	9.3%	18	2.5%	2	0.28%	771	1,488
1994	346	58.2%	18	3.0%	88	14.8%	6	1.0%	12	2.0%	13	2.2%	31	5.2%	63	10.6%	13	2.2%	4	0.67%	718	1,312
1995	360	58.3%	20	3.2%	75	12.2%	9	1.5%	9	1.5%	19	3.1%	29	4.7%	80	13.0%	13	2.1%	3	0.49%	709	1,326
1996	311	56.5%	12	2.2%	71	12.9%	6	1.1%	7	1.3%	26	4.7%	25	4.5%	70	12.7%	19	3.5%	3	0.55%	490	1,040
1997	246	54.9%	8	1.8%	55	12.3%	5	1.1%	9	2.0%	12	2.7%	32	7.1%	73	16.3%	6	1.3%	2	0.45%	485	933
1998	237	54.6%	10	2.3%	57	13.1%	2	0.46%	7	1.6%	19	4.4%	19	4.4%	73	16.8%	7	1.6%	3	0.69%	524	958
1999	239	53.3%	8	1.8%	68	15.2%	1	0.22%	5	1.1%	17	3.8%	24	5.4%	78	17.4%	6	1.3%	2	0.45%	452	900
2000	251	56.4%	13	2.9%	42	9.4%	2	0.45%	9	2.0%	30	6.7%	19	4.3%	76	17.1%	2	0.45%	1	0.22%	449	894
2001	221	50.2%	7	1.6%	37	8.4%	2	0.45%	4	0.91%	36	8.2%	24	5.5%	98	22.3%	8	1.8%	3	0.68%	522	962
2002	313	55.9%	4	0.71%	41	7.3%	0	0.0%	3	0.54%	47	8.4%	26	4.6%	115	20.5%	6	1.1%	5	0.89%	579	1,139
2003	265	52.1%	5	0.98%	38	7.5%	2	0.39%	3	0.59%	47	9.2%	16	3.1%	125	24.6%	4	0.79%	4	0.79%	596	1,105
2004	309	57.0%	7	1.3%	50	9.2%	1	0.18%	2	0.37%	34	6.3%	22	4.1%	108	19.9%	3	0.55%	6	1.1%	635	1,177
2005	289	56.3%	1	0.19%	55	10.7%	1	0.19%	6	1.2%	33	6.4%	13	2.5%	103	20.1%	10	1.9%	2	0.39%	611	1,124
2006	272	54.9%	4	0.81%	25	5.1%	1	0.20%	2	0.40%	42	8.5%	16	3.2%	122	24.6%	6	1.2%	5	1.0%	665	1,160
<b>Total</b>	<b>9,107</b>	<b>67.7%</b>	<b>268</b>	<b>2.0%</b>	<b>1,084</b>	<b>8.1%</b>	<b>301</b>	<b>2.2%</b>	<b>209</b>	<b>1.6%</b>	<b>500</b>	<b>3.7%</b>	<b>461</b>	<b>3.4%</b>	<b>1,327</b>	<b>9.9%</b>	<b>152</b>	<b>1.1%</b>	<b>48</b>	<b>0.36%</b>	<b>14,164</b>	<b>27,621</b>

1 Row percent of cases with known exposure category

2 Includes only HIV-infected infants

3 Other exposure includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care



**Table 1.5** Number and proportion<sup>1</sup> of HIV diagnoses (adjusted<sup>2</sup>) by year of diagnosis and exposure category  
Ontario, 1985 to 2006

Year	MSM		MSM-IDU		IDU		Clotting factor		Transfusion		HIV-endemic		HR hetero		LR hetero		MTC <sup>3</sup>		Other <sup>4</sup>		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
1985	298	89.1%	16	4.9%	1	0.36%	10	3.0%	7	2.1%	0	0.11%	1	0.18%	0	0.0%	1	0.30%	0	0.0%	335
1986	1,182	86.6%	62	4.5%	31	2.2%	28	2.1%	27	2.0%	26	1.9%	3	0.22%	0	0.0%	2	0.15%	4	0.32%	1,365
1987	1,301	84.1%	62	4.0%	32	2.0%	47	3.0%	54	3.5%	34	2.2%	5	0.34%	9	0.61%	1	0.06%	1	0.0%	1,547
1988	1,136	78.7%	64	4.4%	66	4.6%	50	3.5%	53	3.7%	50	3.5%	18	1.2%	4	0.29%	2	0.14%	1	0.0%	1,443
1989	1,345	78.8%	80	4.7%	98	5.7%	35	2.1%	39	2.3%	58	3.4%	31	1.8%	14	0.82%	6	0.35%	1	0.06%	1,706
1990	1,609	77.8%	86	4.2%	147	7.1%	47	2.3%	19	0.93%	97	4.7%	41	2.0%	12	0.60%	5	0.24%	4	0.21%	2,069
1991	1,380	75.5%	72	3.9%	142	7.7%	16	0.88%	6	0.35%	130	7.1%	42	2.3%	30	1.7%	8	0.44%	2	0.11%	1,828
1992	1,228	67.9%	91	5.0%	177	9.8%	14	0.78%	29	1.6%	147	8.1%	52	2.9%	60	3.3%	6	0.33%	6	0.33%	1,810
1993	890	59.8%	82	5.5%	124	8.4%	16	1.1%	33	2.2%	152	10.2%	67	4.5%	95	6.4%	18	1.2%	10	0.68%	1,488
1994	689	52.5%	74	5.6%	185	14.1%	6	0.47%	27	2.1%	140	10.7%	60	4.5%	99	7.5%	13	0.99%	18	1.4%	1,312
1995	732	55.2%	72	5.4%	138	10.4%	9	0.71%	21	1.6%	153	11.6%	58	4.4%	118	8.9%	13	0.98%	11	0.82%	1,326
1996	554	53.2%	43	4.2%	129	12.4%	6	0.58%	15	1.5%	132	12.7%	39	3.8%	92	8.8%	19	1.8%	11	1.0%	1,040
1997	475	50.9%	33	3.5%	108	11.6%	5	0.57%	21	2.2%	128	13.8%	53	5.7%	91	9.8%	6	0.64%	12	1.3%	933
1998	452	47.2%	43	4.5%	120	12.6%	2	0.22%	25	2.6%	135	14.1%	48	5.0%	112	11.7%	7	0.73%	13	1.4%	958
1999	418	46.4%	33	3.7%	129	14.3%	1	0.14%	13	1.4%	135	15.0%	47	5.2%	107	11.9%	6	0.67%	11	1.2%	900
2000	432	48.4%	37	4.1%	85	9.5%	2	0.27%	18	2.1%	165	18.4%	40	4.5%	101	11.3%	2	0.22%	12	1.3%	894
2001	403	41.8%	28	2.9%	81	8.4%	2	0.22%	10	1.1%	228	23.7%	46	4.8%	137	14.2%	8	0.83%	19	2.0%	962
2002	516	45.3%	23	2.0%	79	7.0%	0	0.0%	5	0.48%	272	23.9%	63	5.6%	152	13.4%	6	0.53%	20	1.8%	1,139
2003	457	41.3%	25	2.3%	72	6.5%	2	0.18%	7	0.61%	293	26.6%	46	4.2%	180	16.3%	4	0.36%	19	1.7%	1,105
2004	560	47.6%	34	2.9%	91	7.7%	1	0.08%	4	0.37%	240	20.4%	56	4.7%	163	13.8%	3	0.25%	25	2.1%	1,177
2005	546	48.6%	20	1.8%	99	8.8%	1	0.09%	11	1.0%	228	20.3%	42	3.7%	152	13.5%	10	0.89%	14	1.2%	1,124
2006	509	43.9%	23	2.0%	55	4.8%	1	0.09%	5	0.40%	298	25.6%	45	3.9%	195	16.8%	6	0.52%	24	2.1%	1,160
<b>Total</b>	<b>17,112</b>	<b>62.0%</b>	<b>1,102</b>	<b>4.0%</b>	<b>2,190</b>	<b>7.9%</b>	<b>304</b>	<b>1.1%</b>	<b>451</b>	<b>1.6%</b>	<b>3,243</b>	<b>11.7%</b>	<b>904</b>	<b>3.3%</b>	<b>1,925</b>	<b>7.0%</b>	<b>152</b>	<b>0.55%</b>	<b>237</b>	<b>0.86%</b>	<b>27,621</b>

1 Row percent of cases with known exposure category

2 Adjusted for unknown region, sex and exposure category (see text for more details); thus, total may differ due to rounding

3 Includes only HIV-infected infants

4 Other exposure includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.5a Number and proportion<sup>1</sup> of HIV diagnoses (adjusted<sup>2</sup>) among males by year of diagnosis and exposure category, Ontario, 1985 to 2006**

Year	MSM		MSM-IDU		IDU		Clotting factor		Transfusion		HIV-endemic		HR hetero		LR hetero		MTC <sup>3</sup>		Other <sup>4</sup>		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
1985	298	90.7%	16	5.0%	1	0.36%	7	2.1%	5	1.5%	0	0.0%	0	0.0%	0	0.0%	1	0.30%	0	0.0%	329
1986	1,182	88.4%	62	4.6%	19	1.4%	27	2.0%	18	1.4%	23	1.7%	0	0.0%	0	0.0%	2	0.15%	4	0.33%	1,337
1987	1,301	86.2%	62	4.1%	22	1.4%	46	3.0%	42	2.8%	29	1.9%	1	0.05%	6	0.41%	1	0.07%	0	0.0%	1,510
1988	1,136	83.8%	64	4.7%	41	3.0%	50	3.7%	31	2.3%	30	2.2%	1	0.0%	1	0.11%	2	0.15%	0	0.0%	1,355
1989	1,345	84.6%	80	5.0%	74	4.6%	32	2.0%	18	1.1%	31	1.9%	2	0.10%	7	0.44%	3	0.19%	0	0.01%	1,590
1990	1,609	84.5%	86	4.5%	106	5.6%	45	2.4%	7	0.37%	38	2.0%	1	0.0%	6	0.34%	2	0.11%	3	0.17%	1,903
1991	1,380	83.3%	72	4.3%	96	5.8%	13	0.79%	0	0.0%	69	4.2%	5	0.30%	15	0.91%	6	0.36%	0	0.01%	1,656
1992	1,228	75.0%	91	5.6%	138	8.4%	10	0.61%	15	0.89%	93	5.7%	13	0.82%	47	2.9%	2	0.12%	1	0.07%	1,639
1993	890	68.2%	82	6.3%	84	6.5%	10	0.79%	19	1.5%	102	7.8%	24	1.8%	80	6.1%	6	0.48%	8	0.62%	1,306
1994	689	62.9%	74	6.7%	127	11.6%	4	0.37%	16	1.5%	66	6.1%	24	2.2%	75	6.9%	7	0.61%	11	1.0%	1,095
1995	732	65.7%	72	6.5%	92	8.3%	4	0.40%	13	1.2%	86	7.7%	21	1.9%	83	7.5%	6	0.56%	4	0.32%	1,114
1996	554	64.5%	43	5.1%	83	9.7%	6	0.70%	5	0.55%	74	8.6%	16	1.9%	64	7.5%	8	0.93%	5	0.60%	859
1997	475	63.3%	33	4.4%	74	9.8%	5	0.66%	6	0.83%	71	9.4%	22	2.9%	55	7.3%	3	0.40%	7	0.95%	750
1998	452	58.5%	43	5.6%	88	11.4%	2	0.28%	3	0.34%	76	9.8%	26	3.3%	74	9.6%	1	0.13%	9	1.1%	774
1999	418	57.8%	33	4.6%	83	11.4%	1	0.18%	6	0.77%	79	11.0%	26	3.6%	70	9.7%	3	0.41%	4	0.62%	724
2000	432	61.7%	37	5.3%	58	8.3%	2	0.34%	10	1.4%	74	10.6%	21	2.9%	61	8.8%	1	0.14%	4	0.63%	701
2001	403	55.7%	28	3.9%	62	8.5%	2	0.30%	4	0.56%	123	17.0%	21	2.8%	70	9.7%	3	0.41%	8	1.1%	723
2002	516	60.7%	23	2.7%	54	6.3%	0	0.0%	0	0.05%	126	14.8%	23	2.8%	90	10.5%	4	0.47%	13	1.5%	850
2003	457	56.9%	25	3.1%	53	6.6%	2	0.25%	0	0.06%	119	14.9%	20	2.4%	111	13.9%	0	0.0%	15	1.9%	803
2004	560	64.3%	34	3.9%	56	6.5%	1	0.11%	1	0.07%	82	9.5%	20	2.3%	98	11.3%	1	0.16%	18	2.1%	872
2005	546	64.4%	20	2.4%	63	7.4%	1	0.12%	5	0.57%	84	9.9%	18	2.2%	96	11.3%	4	0.47%	11	1.2%	848
2006	509	62.4%	23	2.8%	35	4.2%	1	0.12%	2	0.25%	101	12.4%	16	1.9%	108	13.2%	2	0.25%	20	2.4%	816
<b>Total</b>	<b>17,112</b>	<b>72.7%</b>	<b>1,102</b>	<b>4.7%</b>	<b>1,508</b>	<b>6.4%</b>	<b>273</b>	<b>1.2%</b>	<b>226</b>	<b>0.96%</b>	<b>1,577</b>	<b>6.7%</b>	<b>319</b>	<b>1.4%</b>	<b>1,219</b>	<b>5.2%</b>	<b>69</b>	<b>0.29%</b>	<b>147</b>	<b>0.62%</b>	<b>23,552</b>

1 Row percent of cases with known exposure category

2 Adjusted for unknown region, sex and exposure category (see text for more details); thus, total may differ due to rounding

3 Includes only HIV-infected infants

4 Other exposure includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.5b Number and proportion<sup>1</sup> of HIV diagnoses (adjusted<sup>2</sup>) among females by year of diagnosis and exposure category, Ontario, 1985 to 2006**

Year	IDU		Clotting factor		Transfusion		HIV-endemic		HR hetero		LR hetero		MTC <sup>3</sup>		Other <sup>4</sup>		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
1985	0	0.23%	3	50.0%	2	33.3%	0	6.3%	1	10.1%	0	0.0%	0	0.0%	0	0.0%	6
1986	12	42.5%	1	3.5%	9	32.3%	3	10.8%	3	10.6%	0	0.18%	0	0.0%	0	0.0%	28
1987	10	26.3%	1	2.8%	12	32.5%	6	16.0%	5	12.5%	3	8.6%	0	0.0%	0	1.3%	37
1988	25	28.7%	0	0.0%	22	24.7%	20	23.1%	17	19.7%	3	3.2%	0	0.0%	1	0.61%	88
1989	24	21.0%	3	2.6%	21	18.5%	27	23.2%	29	25.3%	7	6.1%	3	2.6%	1	0.68%	116
1990	41	24.9%	2	1.3%	12	7.3%	59	35.8%	41	24.7%	6	3.6%	3	1.8%	1	0.57%	166
1991	45	26.4%	3	1.7%	6	3.7%	61	35.7%	37	21.5%	15	8.8%	2	1.2%	2	1.0%	172
1992	39	23.1%	4	2.4%	14	8.2%	53	31.1%	39	22.6%	13	7.6%	4	2.3%	5	2.8%	171
1993	40	22.0%	6	3.3%	13	7.2%	51	27.9%	43	23.7%	15	8.4%	12	6.4%	2	1.1%	182
1994	58	26.7%	2	0.98%	11	5.2%	74	34.0%	35	16.3%	24	10.8%	6	2.9%	7	3.0%	217
1995	46	21.5%	5	2.4%	8	3.8%	68	31.8%	37	17.5%	35	16.4%	7	3.2%	7	3.4%	212
1996	46	25.2%	0	0.0%	11	5.8%	58	32.0%	24	13.0%	27	15.0%	11	6.1%	5	2.9%	181
1997	34	18.8%	0	0.20%	15	8.0%	58	31.5%	31	17.0%	37	20.0%	3	1.6%	5	2.8%	183
1998	32	17.4%	0	0.0%	22	11.9%	60	32.4%	22	12.0%	38	20.7%	6	3.3%	4	2.4%	184
1999	46	26.2%	0	0.0%	7	4.2%	55	31.3%	21	11.9%	37	21.0%	3	1.7%	7	3.8%	176
2000	27	13.9%	0	0.0%	8	4.3%	90	46.9%	19	10.0%	39	20.5%	1	0.52%	8	3.9%	193
2001	20	8.2%	0	0.0%	6	2.6%	104	43.6%	26	10.8%	67	28.0%	5	2.1%	11	4.6%	239
2002	26	9.0%	0	0.0%	5	1.7%	146	50.6%	40	13.8%	63	21.7%	2	0.69%	7	2.5%	289
2003	19	6.2%	0	0.0%	6	2.1%	174	57.6%	27	8.8%	69	22.8%	4	1.3%	4	1.2%	302
2004	35	11.3%	0	0.0%	4	1.2%	158	51.6%	36	11.7%	65	21.2%	2	0.54%	7	2.4%	305
2005	36	13.2%	0	0.0%	6	2.3%	144	52.3%	23	8.4%	56	20.4%	6	2.2%	3	1.3%	276
2006	21	6.0%	0	0.0%	3	0.75%	196	57.1%	29	8.6%	87	25.3%	4	1.2%	4	1.1%	344
<b>Total</b>	<b>682</b>	<b>16.8%</b>	<b>31</b>	<b>0.76%</b>	<b>224</b>	<b>5.5%</b>	<b>1,667</b>	<b>41.0%</b>	<b>585</b>	<b>14.4%</b>	<b>706</b>	<b>17.4%</b>	<b>83</b>	<b>2.1%</b>	<b>91</b>	<b>2.2%</b>	<b>4,069</b>

1 Row percent of cases with known exposure category

2 Adjusted for unknown region, sex and exposure category (see text for more details); thus, total may differ due to rounding

3 Includes only HIV-infected infants

4 Other exposure includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.6** Number and proportion<sup>1</sup> of HIV diagnoses by age group at diagnosis and sex, Ontario, 1985 to 2006

Age group (year)	Males		Females		Unknown		Total	
	Number	%	Number	%	Number	%	Number	%
< 1	3	0.0%	6	0.16%	0	0.0%	9	0.0%
1-9	97	0.46%	81	2.1%	6	0.96%	184	0.73%
10-14	39	0.19%	11	0.29%	3	0.48%	53	0.21%
15-19	205	0.98%	124	3.3%	4	0.64%	333	1.3%
20-24	1,563	7.5%	460	12.2%	41	6.6%	2,064	8.2%
25-29	3,651	17.5%	779	20.7%	114	18.3%	4,544	18.0%
30-34	4,646	22.2%	861	22.8%	132	21.2%	5,639	22.3%
35-39	4,182	20.0%	586	15.5%	137	22.0%	4,905	19.4%
40-44	3,015	14.4%	376	10.0%	92	14.8%	3,483	13.8%
45-49	1,658	7.9%	208	5.5%	40	6.4%	1,906	7.5%
50-54	870	4.2%	111	2.9%	21	3.4%	1,002	4.0%
55-59	491	2.4%	75	2.0%	14	2.2%	580	2.3%
60+	462	2.2%	91	2.4%	19	3.0%	572	2.3%
Unknown	1,738		126		483		2,347	
<b>Total</b>	22,620	100%	3,895	100%	1,106	100%	27,621	100%
<b>Mean age</b>	35.9		33.0		35.8		35.4	
<b>Median age</b>	35		32		35		34	

<sup>1</sup> Column percent of cases with known age at diagnosis

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.7 Number and proportion<sup>1</sup> of HIV diagnoses by age group at diagnosis and exposure category Ontario, 1985 to 2006**

Age Group (year)	MSM		MSM-IDU		IDU		Clotting factor		Transfusion		HIV-endemic		HR hetero		LR hetero		MTC <sup>2</sup>		Other <sup>3</sup>		Unk.	Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	No.
<1	2	0.02%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	0.21%	0	0.0%	0	0.0%	5	3.3%	0	0.0%	1	9
1-9	1	0.01%	0	0.0%	0	0.0%	28	10.2%	5	2.7%	2	0.42%	0	0.0%	1	0.08%	147	96.7%	0	0.0%	0	184
10-14	0	0.0%	0	0.0%	0	0.0%	26	9.5%	2	1.1%	3	0.63%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	22	53
15-19	72	0.85%	5	2.0%	17	1.6%	30	10.9%	5	2.7%	11	2.3%	20	4.5%	27	2.1%	0	0.0%	1	2.1%	145	333
20-24	703	8.3%	42	16.8%	109	10.5%	38	13.9%	8	4.3%	37	7.8%	64	14.5%	116	8.9%	0	0.0%	1	2.1%	946	2,064
25-29	1,631	19.2%	58	23.2%	182	17.6%	34	12.4%	22	12.0%	99	20.8%	71	16.1%	223	17.1%	0	0.0%	7	14.6%	2,217	4,544
30-34	2,013	23.7%	65	26.0%	251	24.3%	34	12.4%	23	12.5%	129	27.2%	114	25.9%	312	23.9%	0	0.0%	12	25.0%	2,686	5,639
35-39	1,678	19.8%	42	16.8%	241	23.3%	18	6.6%	24	13.0%	78	16.4%	55	12.5%	235	18.0%	0	0.0%	7	14.6%	2,527	4,905
40-44	1,187	14.0%	21	8.4%	137	13.2%	10	3.6%	27	14.7%	48	10.1%	49	11.1%	175	13.4%	0	0.0%	7	14.6%	1,822	3,483
45-49	597	7.0%	12	4.8%	66	6.4%	19	6.9%	13	7.1%	36	7.6%	29	6.6%	111	8.5%	0	0.0%	7	14.6%	1,016	1,906
50-54	310	3.7%	2	0.80%	24	2.3%	9	3.3%	13	7.1%	17	3.6%	19	4.3%	45	3.5%	0	0.0%	1	2.1%	562	1,002
55-59	165	1.9%	1	0.40%	6	0.58%	14	5.1%	15	8.2%	6	1.3%	8	1.8%	34	2.6%	0	0.0%	5	10.4%	326	580
60+	126	1.5%	2	0.80%	2	0.19%	14	5.1%	27	14.7%	8	1.7%	11	2.5%	24	1.8%	0	0.0%	0	0.0%	358	572
Unk.	622		18		49		27		25		25		21		24		0		0		1,536	2,347
<b>Total</b>	9,107	100%	268	100%	1,084	100%	301	100%	209	100%	500	100%	461	100%	1,327	100%	152	100%	48	100%	14,164	27,621
Mean age	35.2		31.8		33.9		29.3		41.5		34.1		33.9		35.3		4.1		38.0		36.3	
Median age	34		31		34		26		40.5		33		32		34		3		36.0		35	

1 Column percent of cases with known age at diagnosis

2 Includes only HIV-infected infants

3 Includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care



**Table 1.8 Mean age at HIV diagnosis among males by year of diagnosis and selected exposure category Ontario, 1985 to 2006**

Year	MSM		MSM-IDU		IDU		Clotting factor		Transfusion		HIV-endemic		HR hetero		LR hetero	
	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean
1985	105	33.1	5	25.8	1	28.0	6	25.7	4	34.5	0	--	0	--	0	--
1986	426	34.1	11	27.0	6	25.3	25	21.4	3	40.3	2	42.0	0	--	0	--
1987	760	33.8	18	30.6	11	30.7	39	24.7	21	50.1	9	41.3	0	--	4	28.0
1988	706	33.8	17	27.4	23	30.5	45	20.3	15	30.2	10	32.5	0	--	3	26.0
1989	788	34.6	22	28.5	41	29.9	25	28.6	9	39.7	9	35.9	1	39.0	5	38.0
1990	781	34.5	14	29.2	45	30.4	40	34.1	3	35.0	7	37.3	0	--	3	34.3
1991	385	34.7	7	27.9	22	30.7	13	28.4	0	--	7	32.6	1	50.0	4	33.0
1992	546	34.8	17	31.2	60	30.6	7	26.9	5	35.4	12	35.1	3	39.0	25	32.6
1993	431	35.4	26	31.5	40	31.0	9	39.0	8	36.1	12	38.0	6	36.3	47	35.5
1994	336	34.5	17	32.5	65	34.9	3	43.3	7	47.3	6	29.3	8	38.1	41	35.4
1995	351	34.5	20	34.6	50	33.9	4	56.3	5	42.8	9	38.7	5	38.0	50	34.3
1996	294	35.8	12	34.7	45	33.2	5	24.6	2	43.0	14	30.1	6	29.3	44	35.8
1997	234	35.5	8	30.4	38	37.3	3	40.7	3	31.7	9	35.7	8	33.5	34	37.1
1998	223	37.4	9	34.8	42	39.2	2	37.5	1	38.0	10	35.3	7	34.4	45	37.0
1999	229	36.5	8	34.3	44	36.4	1	42.0	3	36.3	10	40.3	9	34.9	48	38.0
2000	243	36.7	11	34.7	30	38.9	2	28.5	5	41.0	12	35.0	8	39.8	45	39.4
2001	215	37.6	7	32.9	31	35.5	2	36.5	1	64.0	22	36.6	8	36.4	47	36.2
2002	309	36.5	4	45.8	29	36.1	0	--	0	--	27	36.1	8	38.3	66	35.5
2003	264	37.0	5	34.2	29	39.1	2	44.0	0	--	23	35.8	6	34.3	74	37.4
2004	306	38.0	7	37.4	32	40.0	1	39.0	0	--	11	35.9	7	40.9	63	38.4
2005	286	36.7	1	33.0	34	39.2	1	46.0	2	38.0	12	27.9	5	31.6	62	38.0
2006	267	37.2	4	44.8	17	42.8	1	48.0	1	40.0	16	37.5	4	46.0	67	38.2

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.9 Mean age at HIV diagnosis among females by year of diagnosis and selected exposure category, Ontario, 1985 to 2006**

Year	IDU		Clotting factor		Transfusion		HIV-endemic		HR hetero		LR hetero	
	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean	n	Mean
1985	0	--	2	27.5	1	38.0	0	--	0	--	0	--
1986	4	29.0	1	19.0	1	26.0	0	--	2	25.0	0	--
1987	2	27.5	1	23.0	5	64.0	0	--	2	22.5	2	32.0
1988	14	26.4	0	--	12	45.1	3	35.7	15	31.4	3	32.3
1989	10	27.8	2	29.5	9	43.8	3	32.3	22	33.0	6	30.2
1990	18	26.2	2	34.5	4	36.5	13	29.8	32	32.0	3	32.3
1991	8	28.6	3	45.3	0	--	6	30.3	10	27.5	3	37.3
1992	14	30.8	3	26.3	4	39.0	8	31.1	22	32.7	9	34.6
1993	17	29.3	5	40.0	5	33.2	3	17.3	31	34.7	18	26.9
1994	21	28.8	2	38.5	4	42.3	5	31.2	23	33.7	18	36.2
1995	20	34.0	5	48.0	3	33.7	8	29.1	24	35.7	30	33.0
1996	21	32.1	0	--	3	52.0	11	29.6	19	35.2	25	29.1
1997	17	33.4	0	--	5	27.2	3	28.3	24	33.5	37	32.7
1998	11	35.9	0	--	6	33.2	8	33.0	11	32.5	27	33.4
1999	21	31.5	0	--	1	53.0	5	35.0	13	34.1	28	33.7
2000	9	34.6	0	--	3	36.3	17	31.8	11	30.3	29	32.9
2001	5	32.4	0	--	2	46.0	13	35.9	16	33.3	51	31.4
2002	11	33.0	0	--	3	45.3	20	40.3	18	34.5	47	32.7
2003	9	37.1	0	--	3	53.3	24	29.6	10	31.8	50	34.0
2004	18	35.6	0	--	2	58.5	22	33.6	15	30.9	44	32.9
2005	21	36.6	0	--	4	44.3	20	33.9	8	37.6	41	38.2
2006	8	38.9	0	--	1	55.0	26	31.5	12	34.2	55	34.7

Legend: IDU=injection drug user, HR=high risk, LR=low risk

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.10 Single and multiple sources of exposure among HIV diagnoses  
Ontario, 1985 to 2006**

	Number	% <sup>1</sup>
<b>Men who have sex with men (MSM)</b>	7,269	52.8
MSM/IDU	147	1.1
MSM/IDU/HIV-endemic	4	0.03
MSM/IDU/HIV-endemic/Bisexual	2	0.01
MSM/IDU/bisexual	110	0.80
MSM/IDU/Transfusion	4	0.03
MSM/IDU/Clotting factor	1	0.01
MSM/Clotting factor	19	0.14
MSM/HIV-endemic	22	0.16
MSM/HIV-endemic/Bisexual	19	0.14
MSM/Bisexual	1,743	12.7
MSM/Transfusion	22	0.16
MSM/others	13	0.09
<b>SUB-TOTAL</b>	<b>9,375</b>	<b>68.1</b>
<b>IDU</b>	577	4.2
IDU/HIV-endemic	3	0.02
IDU/HIV-endemic/Heterosexual	16	0.12
IDU/Heterosexual	474	3.4
IDU/others	14	0.10
<b>SUB-TOTAL</b>	<b>1,084</b>	<b>7.9</b>
<b>Clotting factor</b>	223	1.6
Clotting factor/Transfusion	62	0.45
Clotting factor/others	16	0.12
<b>SUB-TOTAL</b>	<b>301</b>	<b>2.2</b>
<b>HIV-endemic</b>	221	1.6
HIV-endemic/Heterosexual	278	2.0
HIV-endemic/others	15	0.11
<b>SUB-TOTAL</b>	<b>514</b>	<b>3.7</b>
<b>Heterosexual</b>	2,103	15.3
Heterosexual/Transfusion	30	0.22
<b>SUB-TOTAL</b>	<b>2,133</b>	<b>15.5</b>
<b>Transfusion</b>	165	1.2
<b>MTC<sup>2</sup></b>	152	1.1
<b>Occupational</b>	48	0.35
<b>Unknown</b>	13,849	
<b>GRAND TOTAL</b>	<b>27,621</b>	

1 Percent of cases with known source of exposure

2 Includes only HIV-infected infants

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.11 Number and proportion (column percent)<sup>1</sup> of HIV diagnoses by exposure category and health region  
Ontario, 1985 to 2006**

Exposure category	Northern		Ottawa		Eastern, other		Toronto		Central East, other		Central West		Southwest		Unk. <sup>2</sup>		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	93	29.9%	779	53.4%	154	41.2%	6,848	78.0%	233	43.4%	299	46.7%	445	56.5%	256	44.9%	9,107	67.7%
MSM-IDU	5	1.6%	38	2.6%	8	2.1%	155	1.8%	13	2.4%	9	1.4%	18	2.3%	22	3.9%	268	2.0%
IDU	119	38.3%	237	16.3%	112	29.9%	312	3.6%	53	9.9%	85	13.3%	49	6.2%	117	20.5%	1,084	8.1%
Clotting factor	16	5.1%	23	1.6%	22	5.9%	119	1.4%	9	1.7%	20	3.1%	64	8.1%	28	4.9%	301	2.2%
Transfusion	4	1.3%	27	1.9%	10	2.7%	87	1.0%	24	4.5%	21	3.3%	24	3.0%	12	2.1%	209	1.6%
HIV-endemic	8	2.6%	112	7.7%	8	2.1%	259	2.9%	29	5.4%	37	5.8%	24	3.0%	23	4.0%	500	3.7%
HR hetero	22	7.1%	47	3.2%	18	4.8%	202	2.3%	39	7.3%	44	6.9%	55	7.0%	34	6.0%	461	3.4%
LR hetero	43	13.8%	163	11.2%	41	11.0%	689	7.8%	123	22.9%	111	17.3%	97	12.3%	60	10.5%	1,327	9.9%
MTC <sup>3</sup>	1	0.32%	23	1.6%	0	0.0%	94	1.1%	9	1.7%	11	1.7%	8	1.0%	6	1.05%	152	1.1%
Other <sup>4</sup>	0	0.0%	9	0.62%	1	0.27%	15	0.17%	5	0.93%	3	0.47%	3	0.38%	12	2.1%	48	0.36%
Unknown	210		1,435		322		8,623		784		975		1,063		752		14,164	
<b>Total</b>	<b>521</b>	<b>100%</b>	<b>2,893</b>	<b>100%</b>	<b>696</b>	<b>100%</b>	<b>17,403</b>	<b>100%</b>	<b>1,321</b>	<b>100%</b>	<b>1,615</b>	<b>100%</b>	<b>1,850</b>	<b>100%</b>	<b>1,322</b>	<b>100%</b>	<b>27,621</b>	<b>100%</b>

1 Column percent of cases with known region

2 Includes out of province

3 Includes only HIV-infected infants

4 Includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.11a Number and proportion (row percent)<sup>1</sup> of HIV diagnoses by exposure category and health region  
Ontario, 1985 to 2006**

Exposure category	Northern		Ottawa		Eastern, other		Toronto		Central East, other		Central West		Southwest		Unk. <sup>2</sup>	Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	No.
MSM	93	1.1%	779	8.8%	154	1.7%	6,848	77.4%	233	2.6%	299	3.4%	445	5.0%	256	9,107
MSM-IDU	5	2.0%	38	15.4%	8	3.3%	155	63.0%	13	5.3%	9	3.7%	18	7.3%	22	268
IDU	119	12.3%	237	24.5%	112	11.6%	312	32.3%	53	5.5%	85	8.8%	49	5.1%	117	1,084
Clotting factor	16	5.9%	23	8.4%	22	8.1%	119	43.6%	9	3.3%	20	7.3%	64	23.4%	28	301
Transfusion	4	2.0%	27	13.7%	10	5.1%	87	44.2%	24	12.2%	21	10.7%	24	12.2%	12	209
HIV-endemic	8	1.7%	112	23.5%	8	1.7%	259	54.3%	29	6.1%	37	7.8%	24	5.0%	23	500
HR hetero	22	5.2%	47	11.0%	18	4.2%	202	47.3%	39	9.1%	44	10.3%	55	12.9%	34	461
LR hetero	43	3.4%	163	12.9%	41	3.2%	689	54.4%	123	9.7%	111	8.8%	97	7.7%	60	1,327
MTC <sup>3</sup>	1	0.68%	23	15.8%	0	0.0%	94	64.4%	9	6.2%	11	7.5%	8	5.5%	6	152
Other <sup>4</sup>	0	0.0%	9	25.0%	1	2.8%	15	41.7%	5	13.9%	3	8.3%	3	8.3%	12	48
Unknown	210	1.6%	1,435	10.7%	322	2.4%	8,623	64.3%	784	5.8%	975	7.3%	1,063	7.9%	752	14,164
<b>Total</b>	<b>521</b>	<b>2.0%</b>	<b>2,893</b>	<b>11.0%</b>	<b>696</b>	<b>2.6%</b>	<b>17,403</b>	<b>66.2%</b>	<b>1,321</b>	<b>5.0%</b>	<b>1,615</b>	<b>6.1%</b>	<b>1,850</b>	<b>7.0%</b>	<b>1,322</b>	<b>27,621</b>

1 Column percent of cases with known region

2 Includes out of province

3 Includes only HIV-infected infants

4 Includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care



**Table 1.12 Number and proportion<sup>1</sup> of HIV diagnoses by exposure category and health region, Ontario, 2006**

Exposure category	Northern		Ottawa		Eastern, other		Toronto		Central East, other		Central West		Southwest		Unk. <sup>2</sup>		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	3	18.8%	33	49.3%	9	42.9%	195	63.7%	10	32.3%	12	41.4%	10	41.7%	0	0.0%	272	54.9%
MSM-IDU	0	0.0%	1	1.5%	1	4.8%	2	0.65%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4	0.81%
IDU	6	37.5%	5	7.5%	4	19.0%	8	2.6%	0	0.0%	2	6.9%	0	0.0%	0	0.0%	25	5.1%
Clotting factor	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	3.4%	0	0.0%	0	0.0%	1	0.20%
Transfusion	1	6.3%	0	0.0%	1	4.8%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	0.40%
HIV-endemic	0	0.0%	14	20.9%	1	4.8%	17	5.6%	3	9.7%	2	6.9%	5	20.8%	0	0.0%	42	8.5%
HR hetero	1	6.3%	2	3.0%	1	4.8%	6	2.0%	5	16.1%	0	0.0%	1	4.2%	0	0.0%	16	3.2%
LR hetero	5	31.3%	10	14.9%	4	19.0%	71	23.2%	13	41.9%	11	37.9%	8	33.3%	0	0.0%	122	24.6%
MTC <sup>3</sup>	0	0.0%	0	0.0%	0	0.0%	4	1.3%	0	0.0%	1	3.4%	0	0.0%	1	100%	6	1.2%
Other <sup>4</sup>	0	0.0%	2	3.0%	0	0.0%	3	0.98%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	5	1.0%
Unknown	10		86		13		388		40		88		35		5		665	
<b>Total</b>	<b>26</b>	<b>100%</b>	<b>153</b>	<b>100%</b>	<b>34</b>	<b>100%</b>	<b>694</b>	<b>100%</b>	<b>71</b>	<b>100%</b>	<b>117</b>	<b>100%</b>	<b>59</b>	<b>100%</b>	<b>6</b>	<b>100%</b>	<b>1,160</b>	<b>100%</b>

1 Column percent of cases with known region

2 Includes out of province

3 Includes only HIV-infected infants

4 Includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.13 Number and proportion<sup>1</sup> of HIV diagnoses (adjusted<sup>2</sup>) by exposure category and health region  
Ontario, 1985 to 2006**

Exposure category	Northern		Ottawa		Eastern, other		Toronto		Central East, other		Central West		Southwest		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	174	31.5%	1,419	46.4%	328	44.4%	12,592	69.1%	599	43.2%	788	46.5%	1,212	61.5%	17,112	62.0%
MSM-IDU	11	2.0%	144	4.7%	37	5.0%	663	3.6%	72	5.2%	102	6.0%	73	3.7%	1,102	4.0%
IDU	225	40.7%	443	14.5%	178	24.1%	870	4.8%	146	10.5%	214	12.6%	114	5.8%	2,190	7.9%
Clotting factor	18	3.3%	28	0.92%	24	3.3%	132	0.73%	10	0.73%	21	1.3%	70	3.5%	304	1.1%
Transfusion	7	1.3%	77	2.5%	20	2.7%	204	1.1%	55	4.0%	44	2.6%	43	2.2%	451	1.6%
HIV-endemic	11	1.9%	642	21.0%	57	7.8%	1,905	10.5%	203	14.6%	233	13.8%	192	9.7%	3,243	11.7%
HR hetero	48	8.7%	84	2.7%	37	5.0%	435	2.4%	88	6.3%	90	5.3%	123	6.2%	904	3.3%
LR hetero	57	10.4%	159	5.2%	55	7.4%	1,200	6.6%	165	11.9%	168	9.9%	121	6.1%	1,925	7.0%
MTC <sup>3</sup>	1	0.18%	24	0.80%	0	0.0%	97	0.53%	9	0.67%	12	0.69%	9	0.43%	152	0.55%
Other <sup>4</sup>	0	0.0%	37	1.2%	2	0.33%	118	0.65%	40	2.9%	24	1.4%	16	0.83%	237	0.86%
<b>Total</b>	<b>551</b>	<b>100%</b>	<b>3,059</b>	<b>100%</b>	<b>739</b>	<b>100%</b>	<b>18,217</b>	<b>100%</b>	<b>1,387</b>	<b>100%</b>	<b>1,696</b>	<b>100%</b>	<b>1,972</b>	<b>100%</b>	<b>27,621</b>	<b>100%</b>
Cumulative rate per 100,000	60.7		411.7		94.6		739.8		53.3		80.1		132.7		248.8	

1 Column percent

2 Adjusted for unknown region, sex and exposure category (see text for more details); thus, total may differ due to rounding

3 Includes only HIV-infected infants

4 Includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data sources: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care  
1996 census population provided by Statistics Canada

**Table 1.13a Number and proportion<sup>1</sup> of HIV diagnoses (adjusted<sup>2</sup>) among males by exposure category and health region, Ontario, 1985 to 2006**

Exposure category	Northern		Ottawa		Eastern, other		Toronto		Central East, other		Central West		Southwest		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	174	42.6%	1,419	58.6%	328	52.2%	12,592	78.5%	599	56.4%	788	59.7%	1,212	72.9%	17,112	72.7%
MSM-IDU	11	2.7%	144	6.0%	37	5.9%	663	4.1%	72	6.8%	102	7.7%	73	4.4%	1,102	4.7%
IDU	139	34.1%	309	12.7%	134	21.3%	591	3.7%	100	9.4%	159	12.0%	77	4.6%	1,508	6.4%
Clotting factor	16	3.9%	25	1.0%	23	3.7%	115	0.72%	8	0.71%	18	1.4%	68	4.1%	273	1.2%
Transfusion	0	0.0%	20	0.83%	15	2.4%	111	0.69%	32	3.0%	24	1.8%	24	1.4%	226	0.96%
HIV-endemic	4	1.0%	315	13.0%	44	7.0%	916	5.7%	99	9.3%	100	7.5%	99	6.0%	1,577	6.7%
HR hetero	24	5.8%	42	1.8%	7	1.1%	182	1.1%	28	2.7%	19	1.5%	16	0.98%	319	1.4%
LR hetero	40	9.7%	119	4.9%	38	6.1%	753	4.7%	101	9.5%	91	6.9%	77	4.6%	1,219	5.2%
MTC <sup>3</sup>	1	0.24%	8	0.32%	0	0.0%	46	0.29%	2	0.21%	6	0.45%	6	0.33%	69	0.29%
Other <sup>4</sup>	0	0.0%	20	0.83%	2	0.39%	79	0.49%	21	2.0%	13	1.0%	11	0.64%	147	0.62%
<b>Total</b>	<b>408</b>	<b>100%</b>	<b>2,422</b>	<b>100%</b>	<b>628</b>	<b>100%</b>	<b>16,048</b>	<b>100%</b>	<b>1,062</b>	<b>100%</b>	<b>1,321</b>	<b>100%</b>	<b>1,662</b>	<b>100%</b>	<b>23,552</b>	<b>100%</b>
Cumulative rate per 100,000	90.1		663.7		162.4		1,342.9		82.1		126.4		227.2		430.5	

1 Column percent

2 Adjusted for unknown region, sex and exposure category (see text for more details); thus, total may differ due to rounding

3 Includes only HIV-infected infants

4 Includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data sources: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care  
1996 census population provided by Statistics Canada

**Table 1.13b Number and proportion<sup>1</sup> of HIV diagnoses (adjusted<sup>2</sup>) among females by exposure category and health region, Ontario, 1985 to 2006**

Exposure category	Northern		Ottawa		Eastern, other		Toronto		Central East, other		Central West		Southwest		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
MSM-IDU	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
IDU	85	59.6%	134	21.1%	45	40.5%	279	12.9%	46	14.3%	55	14.8%	37	11.9%	682	16.8%
Clotting factor	2	1.5%	3	0.49%	1	0.99%	17	0.78%	3	0.80%	3	0.83%	2	0.66%	31	0.76%
Transfusion	7	5.2%	57	9.0%	5	4.2%	94	4.3%	23	7.0%	19	5.2%	19	6.2%	224	5.5%
HIV-endemic	6	4.4%	327	51.4%	14	12.3%	989	45.6%	104	31.9%	134	35.7%	92	29.9%	1,667	41.0%
HR hetero	24	17.0%	42	6.5%	30	27.1%	253	11.7%	59	18.2%	70	18.8%	106	34.3%	585	14.4%
LR hetero	18	12.4%	41	6.4%	16	14.9%	447	20.6%	64	19.7%	77	20.4%	44	14.1%	706	17.4%
MTC <sup>3</sup>	0	0.0%	16	2.6%	0	0.0%	51	2.4%	7	2.2%	6	1.5%	3	0.97%	83	2.1%
Other <sup>4</sup>	0	0.0%	17	2.6%	0	0.0%	38	1.8%	19	5.9%	11	2.8%	6	1.9%	91	2.2%
<b>Total</b>	<b>143</b>	<b>100%</b>	<b>637</b>	<b>100%</b>	<b>111</b>	<b>100%</b>	<b>2,168</b>	<b>100%</b>	<b>325</b>	<b>100%</b>	<b>375</b>	<b>100%</b>	<b>309</b>	<b>100%</b>	<b>4,069</b>	<b>100%</b>
Cumulative rate per 100,000	31.4		168.5		28.1		171.1		24.8		35.0		41.0		72.3	

1 Column percent

2 Adjusted for unknown region, sex and exposure category (see text for more details); thus, total may differ due to rounding

3 Includes only HIV-infected infants

4 Includes needle-stick, acupuncture, tattoo etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data sources: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care  
1996 census population provided by Statistics Canada

**Table 1.14 Number and proportion<sup>1</sup> of HIV diagnoses (adjusted<sup>2</sup>) by exposure category and health region, Ontario, 2006**

Exposure category	Northern		Ottawa		Eastern, other		Toronto		Central East, other		Central West		Southwest		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	4	17.2%	58	37.8%	14	42.3%	340	48.7%	27	38.5%	39	33.0%	26	43.9%	509	43.9%
MSM-IDU	0	0.81%	4	2.4%	2	6.4%	12	1.8%	1	1.4%	3	2.4%	0	0.7%	23	2.0%
IDU	11	43.7%	8	5.0%	6	16.2%	21	3.0%	2	2.2%	8	6.8%	0	0.2%	55	4.8%
Clotting factor	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	0.8%	0	0.0%	1	0.09%
Transfusion	2	7.1%	0	0.0%	1	4.4%	1	0.10%	0	0.20%	0	0.0%	0	0.7%	5	0.40%
HIV-endemic	0	0.0%	57	36.9%	5	16.0%	165	23.6%	18	24.9%	34	28.5%	19	32.8%	298	25.6%
HR hetero	2	7.1%	5	3.0%	1	2.5%	25	3.5%	8	10.6%	2	1.9%	4	5.9%	45	3.9%
LR hetero	6	24.1%	17	11.3%	4	12.1%	116	16.6%	14	19.9%	28	23.9%	9	15.7%	195	16.8%
MTC <sup>3</sup>	0	0.0%	0	0.0%	0	0.0%	5	0.72%	0	0.0%	1	0.85%	0	0.0%	6	0.52%
Other <sup>4</sup>	0	0.0%	6	3.7%	0	0.0%	14	2.0%	2	2.4%	2	1.9%	0	0.0%	24	2.1%
<b>Total</b>	26	100%	154	100%	34	100%	698	100%	71	100%	118	100%	59	100%	1,160	100%
Rate per 100,000	3.3		18.9		4.3		27.9		2.1		5.0		3.9		9.5	

1 Column percent

2 Adjusted for unknown region, sex and exposure category (see text for more details); thus, total may differ due to rounding

3 Includes only HIV-infected infants

4 Includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data sources: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care  
2006 census population provided by Statistics Canada

**Table 1.14a Number and proportion<sup>1</sup> of HIV diagnoses (adjusted<sup>2</sup>) among males by exposure category and health region, Ontario, 2006**

Exposure category	Northern		Ottawa		Eastern, other		Toronto		Central East, other		Central West		Southwest		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	4	30.4%	58	55.9%	14	48.0%	340	67.0%	27	51.6%	39	59.2%	26	62.1%	509	62.4%
MSM-IDU	0	1.4%	4	3.6%	2	7.3%	12	2.5%	1	1.8%	3	4.2%	0	0.96%	23	2.8%
IDU	6	40.3%	5	4.7%	5	16.8%	15	2.9%	1	1.8%	3	4.6%	0	0.0%	35	4.2%
Clotting factor	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	1.5%	0	0.0%	1	0.12%
Transfusion	0	0.0%	0	0.0%	1	5.0%	0	0.07%	0	0.0%	0	0.0%	0	0.53%	2	0.25%
HIV-endemic	0	0.0%	17	16.7%	4	13.2%	55	10.9%	10	18.8%	6	9.6%	8	20.0%	101	12.4%
HR hetero	0	0.0%	1.9	1.8%	1	2.9%	11	2.2%	1	2.0%	0	0.0%	1	2.1%	16	1.9%
LR hetero	4	27.9%	12	11.9%	2	6.8%	60	11.9%	12	22.0%	12	17.5%	6	14.3%	108	13.2%
MTC <sup>3</sup>	0	0.0%	0	0.0%	0	0.0%	1	0.20%	0	0.0%	1	1.5%	0	0.0%	2	0.25%
Other <sup>4</sup>	0	0.0%	6	5.5%	0	0.0%	12	2.4%	1	1.9%	1	1.9%	0	0.0%	20	2.4%
<b>Total</b>	15	100%	104	100%	30	100%	507	100%	53	100%	66	100%	42	100%	816	100%
<b>Rate per 100,000</b>	3.8		26.4		7.7		42.0		3.2		5.8		5.6		13.8	

1 Column percent

2 Adjusted for unknown region, sex and exposure category (see text for more details); thus, total may differ due to rounding

3 Includes only HIV-infected infants

4 Includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data sources: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care  
2006 census population provided by Statistics Canada



**Table 1.14b Number and proportion<sup>1</sup> of HIV diagnoses (adjusted<sup>2</sup>) among females by exposure category and health region, Ontario, 2006**

Exposure category	Northern		Ottawa		Eastern, other		Toronto		Central East, other		Central West		Southwest		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
MSM-IDU	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
IDU	5	48.1%	3	5.5%	0	11.5%	6	3.3%	1	3.3%	5	9.6%	0	0.72%	21	6.0%
Clotting factor	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Transfusion	2	16.3%	0	0.0%	0	0.0%	0	0.2%	0	0.78%	0	0.0%	0	1.3%	3	0.75%
HIV-endemic	0	0.0%	39	79.0%	1	36.7%	109	57.2%	8	42.9%	27	52.4%	11	63.7%	196	57.1%
HR hetero	2	16.4%	2.7	5.4%	0	0.0%	14	7.1%	6	35.8%	2	4.3%	3	15.1%	29	8.6%
LR hetero	2	19.2%	5	10.1%	2	51.8%	55	29.0%	2	13.6%	17	31.9%	3	19.2%	87	25.3%
MTC <sup>3</sup>	0	0.0%	0	0.0%	0	0.0%	4	2.1%	0	0.0%	0	0.0%	0	0.0%	4	1.2%
Other <sup>4</sup>	0	0.0%	0	0.0%	0	0.0%	2	1.2%	1	3.7%	1	1.9%	0	0.0%	4	1.1%
<b>Total</b>	<b>11</b>	<b>100%</b>	<b>50</b>	<b>100%</b>	<b>4</b>	<b>100%</b>	<b>191</b>	<b>100%</b>	<b>18</b>	<b>100%</b>	<b>52</b>	<b>100%</b>	<b>17</b>	<b>100%</b>	<b>344</b>	<b>100%</b>
Rate per 100,000	2.8		11.9		1.00		14.7		1.0		4.4		2.2		5.5	

1 Column percent

2 Adjusted for unknown region, sex and exposure category (see text for more details); thus, total may differ due to rounding

3 Includes only HIV-infected infants

4 Includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data sources: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care  
2006 census population provided by Statistics Canada

**Table 1.15 Number of HIV diagnoses and rate<sup>1</sup> per 100,000 by public health unit and sex, Ontario, 1985 to 2006**

Public health unit	Males		Females		Unknown	Total	
	Number	Rate	Number	Rate	Number	Number	Rate
Algoma	30	46.7	15	22.8	4	49	37.7
North Bay-Parry Sound	60	96.8	9	14.2	2	71	56.6
Northwestern	28	65.8	8	19.2	4	40	47.5
Porcupine	13	25.6	5	10.1	4	22	22.0
Sudbury	146	141.8	47	45.0	18	211	101.7
Thunder Bay	81	96.8	40	48.0	1	122	73.1
Timiskaming	5	25.1	1	5.0	0	6	15.0
<b>Northern</b>	<b>363</b>		<b>125</b>		<b>33</b>	<b>521</b>	
<b>Ottawa</b>	<b>2,231</b>	<b>613.0</b>	<b>568</b>	<b>150.5</b>	<b>94</b>	<b>2,893</b>	<b>390.2</b>
Eastern Ontario	123	129.3	29	30.0	7	159	83.0
Hastings-Prince Edward	47	60.9	6	7.6	0	53	33.9
Kinston-Frontenac	311	347.0	49	54.0	41	401	222.3
Leeds-Grenville-Lanark	51	64.5	8	9.9	0	59	36.8
Renfrew	20	39.9	4	7.9	0	24	23.9
<b>Eastern, other</b>	<b>552</b>		<b>96</b>		<b>48</b>	<b>696</b>	
<b>Toronto</b>	<b>14,712</b>	<b>1,232.9</b>	<b>1,948</b>	<b>153.8</b>	<b>743</b>	<b>17,403</b>	<b>707.5</b>
Durham	144	61.5	31	13.1	7	182	38.6
Haliburton-Kawartha-Pine Ridge	30	37.3	7	8.6	1	38	23.5
Peel	538	122.9	174	39.5	20	732	83.3
Peterborough	50	81.4	14	21.5	2	66	52.1
Simcoe-Muskoka	63	32.5	15	7.6	7	85	21.7
York Region	159	52.4	55	17.9	4	218	35.7
<b>Central East, other</b>	<b>984</b>		<b>296</b>		<b>41</b>	<b>1,321</b>	
Brant	33	54.1	12	19.0	0	45	36.2
Haldimand-Norfolk	15	28.5	9	17.0	1	25	23.7
Halton	152	87.9	28	15.9	2	182	52.1
Hamilton-Wentworth	561	237.8	156	63.7	27	744	154.7
Niagara	216	106.5	69	32.6	13	298	71.9
Waterloo	131	63.4	47	22.3	3	181	43.4
Wellington-Dufferin-Guelph	107	96.1	30	26.8	3	140	62.7
<b>Central West</b>	<b>1,215</b>		<b>351</b>		<b>49</b>	<b>1,615</b>	
Chatham-Kent	34	61.3	2	3.5	0	36	32.0
Elgin-St. Thomas	37	92.0	3	7.3	0	40	49.2
Grey Bruce	15	19.1	8	10.0	0	23	14.6
Huron	10	32.5	3	9.6	1	14	22.6
Lambton	21	31.9	5	7.4	1	27	20.3
Middlesex-London	961	488.5	174	84.4	31	1,166	289.4
Oxford	15	30.4	5	9.9	0	20	20.0
Perth	22	60.0	4	10.7	1	27	36.4
Windsor-Essex	398	224.2	81	44.3	18	497	137.9
<b>Southwest</b>	<b>1,513</b>		<b>285</b>		<b>52</b>	<b>1,850</b>	
unknown	1,050		226		46	1,322	
<b>Total</b>	<b>22,620</b>	<b>414.3</b>	<b>3,895</b>	<b>69.3</b>	<b>1,106</b>	<b>27,621</b>	<b>249.2</b>

Data sources: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care  
Population provided by Health Data and Decision Support Unit, Knowledge Management Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.16 Number and proportion<sup>1</sup> of HIV diagnoses by year of test and type of identifier, Ontario, 1985 to 2006**

Year	Nominal		Coded		Anonymous		Unknown		Total
	Number	%	Number	%	Number	%	Number	%	Number
1985	277	82.7%	57	17.0%	0	--	1	0.30%	335
1986	743	54.4%	622	45.6%	0	--	0	0.0%	1,365
1987	802	51.8%	745	48.2%	0	--	0	0.0%	1,547
1988	637	44.1%	804	55.7%	0	--	2	0.14%	1,443
1989	669	39.2%	1033	60.6%	0	--	4	0.23%	1,706
1990	760	36.7%	1291	62.4%	0	--	18	0.87%	2,069
1991	401	21.9%	668	36.5%	0	--	759	41.5%	1,828
1992	844	46.6%	762	42.1%	204	11.3%	0	0.0%	1,810
1993	732	49.2%	623	41.9%	133	8.9%	0	0.0%	1,488
1994	706	53.8%	511	38.9%	95	7.2%	0	0.0%	1,312
1995	654	49.3%	550	41.5%	122	9.2%	0	0.0%	1,326
1996	544	52.3%	390	37.5%	105	10.1%	1	0.10%	1,040
1997	486	52.1%	346	37.1%	100	10.7%	1	0.11%	933
1998	543	56.7%	319	33.3%	92	9.6%	4	0.42%	958
1999	504	56.0%	301	33.4%	94	10.4%	1	0.11%	900
2000	525	58.7%	257	28.7%	105	11.7%	7	0.78%	894
2001	592	61.5%	254	26.4%	107	11.1%	9	0.94%	962
2002	731	64.2%	299	26.3%	108	9.5%	1	0.09%	1,139
2003	752	68.1%	241	21.8%	112	10.1%	0	0.0%	1,105
2004	825	70.1%	231	19.6%	121	10.3%	0	0.0%	1,177
2005	801	71.3%	211	18.8%	112	10.0%	0	0.0%	1,124
2006	912	78.6%	142	12.2%	106	9.1%	0	0.0%	1,160
<b>Total<sup>2</sup></b>	<b>14,440</b>	<b>52.3%</b>	<b>10,657</b>	<b>38.6%</b>	<b>1,716</b>	<b>6.2%</b>	<b>808</b>	<b>2.9%</b>	<b>27,621</b>

1 Row percent

2 Total includes 1,106 HIV-positives among unknown sex, of whom 315 tested nominally, 692 coded, 17 anonymously and 82 unknown

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.17 Number and proportion<sup>1</sup> of HIV diagnoses among males by year of test and type of identifier, Ontario, 1985 to 2006**

Year	Nominal		Coded		Anonymous		Unknown		Total
	Number	%	Number	%	Number	%	Number	%	Number
1985	269	82.5%	56	17.2%	0	--	1	0.31%	326
1986	723	56.2%	564	43.8%	0	--	0	0.0%	1,287
1987	767	52.4%	696	47.6%	0	--	0	0.0%	1,463
1988	571	43.0%	754	56.8%	0	--	2	0.15%	1,327
1989	592	38.4%	945	61.3%	0	--	4	0.26%	1,541
1990	673	37.0%	1,129	62.1%	0	--	15	0.83%	1,817
1991	318	20.6%	586	37.9%	0	--	641	41.5%	1,545
1992	693	45.2%	647	42.2%	193	12.6%	0	0.0%	1,533
1993	604	48.5%	517	41.5%	124	10.0%	0	0.0%	1,245
1994	549	52.5%	410	39.2%	86	8.2%	0	0.0%	1,045
1995	512	48.0%	446	41.8%	108	10.1%	0	0.0%	1,066
1996	417	51.3%	306	37.6%	89	10.9%	1	0.12%	813
1997	351	50.1%	262	37.4%	86	12.3%	1	0.14%	700
1998	404	55.9%	240	33.2%	79	10.9%	0	0.0%	723
1999	377	54.1%	245	35.2%	75	10.8%	0	0.0%	697
2000	383	57.4%	194	29.1%	90	13.5%	0	0.0%	667
2001	412	58.8%	201	28.7%	88	12.6%	0	0.0%	701
2002	491	59.1%	248	29.8%	91	11.0%	1	0.12%	831
2003	498	62.9%	201	25.4%	93	11.7%	0	0.0%	792
2004	576	67.0%	190	22.1%	94	10.9%	0	0.0%	860
2005	570	68.1%	169	20.2%	98	11.7%	0	0.0%	837
2006	593	73.8%	118	14.7%	93	11.6%	0	0.0%	804
<b>Total</b>	<b>11,343</b>	<b>50.1%</b>	<b>9,124</b>	<b>40.3%</b>	<b>1,487</b>	<b>6.6%</b>	<b>666</b>	<b>2.9%</b>	<b>22,620</b>

<sup>1</sup> Row percent

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.18 Number and proportion<sup>1</sup> of HIV diagnoses among females by year of test and type of identifier, Ontario, 1985 to 2006**

Year	Nominal		Coded		Anonymous		Unknown		Total
	Number	%	Number	%	Number	%	Number	%	Number
1985	5	83.3%	1	16.7%	0	--	0	0.0%	6
1986	20	74.1%	7	25.9%	0	--	0	0.0%	27
1987	27	77.1%	8	22.9%	0	--	0	0.0%	35
1988	64	74.4%	22	25.6%	0	--	0	0.0%	86
1989	71	64.0%	40	36.0%	0	--	0	0.0%	111
1990	77	48.7%	80	50.6%	0	--	1	0.63%	158
1991	56	35.2%	44	27.7%	0	--	59	37.1%	159
1992	103	64.8%	47	29.6%	9	5.7%	0	0%	159
1993	92	53.8%	71	41.5%	8	4.7%	0	0%	171
1994	129	62.6%	68	33.0%	9	4.4%	0	0%	206
1995	124	61.4%	66	32.7%	12	5.9%	0	0%	202
1996	103	61.3%	50	29.8%	15	8.9%	0	0%	168
1997	114	66.7%	45	26.3%	12	7.0%	0	0%	171
1998	116	68.2%	42	24.7%	12	7.1%	0	0%	170
1999	113	66.9%	39	23.1%	17	10.1%	0	0%	169
2000	136	75.1%	31	17.1%	14	7.7%	0	0%	181
2001	174	75.7%	37	16.1%	19	8.3%	0	0%	230
2002	233	82.9%	34	12.1%	14	5.0%	0	0%	281
2003	250	84.2%	28	9.4%	19	6.4%	0	0%	297
2004	243	81.3%	31	10.4%	25	8.4%	0	0%	299
2005	224	82.4%	34	12.5%	14	5.1%	0	0%	272
2006	308	91.4%	16	4.7%	13	3.9%	0	0%	337
<b>Total</b>	<b>2,782</b>	<b>71.4%</b>	<b>841</b>	<b>21.6%</b>	<b>212</b>	<b>5.4%</b>	<b>60</b>	<b>1.5%</b>	<b>3,895</b>

1 Row percent

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.19 Number of HIV-positive tests (p), number tested (n)<sup>1</sup> and HIV-positivity rates (%) by exposure category and year of HIV diagnosis, Ontario, 1992 to 2006**

Exposure category	Year of diagnosis																							
	1992			1993			1994			1995			1996			1997			1998			1999		
	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%
MSM	572	8,440	6.8%	454	8,618	5.3%	346	8,332	4.2%	360	9,092	4.0%	311	9,181	3.4%	246	8,775	2.8%	237	8,432	2.8%	239	8,247	2.9%
MSM-IDU	20	348	5.7%	26	477	5.5%	18	457	3.9%	20	456	4.4%	12	481	2.5%	8	457	1.8%	10	460	2.2%	8	515	1.6%
IDU	84	6,013	1.4%	60	6,524	0.92%	88	5,766	1.5%	75	6,325	1.2%	71	6,720	1.1%	55	6,553	0.84%	57	7,017	0.81%	68	6,726	1.0%
Clotting factor	14	3,727	0.38%	16	10,278	0.16%	6	9,963	0.06%	9	5,448	0.17%	6	3,612	0.17%	5	1,767	0.28%	2	1,512	0.13%	1	864	0.12%
Transfusion	10	1,845	0.54%	14	14,854	0.09%	12	17,209	0.07%	9	8,686	0.10%	7	5,267	0.13%	9	2,821	0.32%	7	2,968	0.24%	5	2,650	0.19%
HIV-endemic	23	1,058	2.2%	18	956	1.9%	13	887	1.5%	19	956	2.0%	26	970	2.7%	12	845	1.4%	19	963	2.0%	17	1,008	1.7%
HR hetero	25	6,538	0.38%	42	7,781	0.54%	31	7,210	0.43%	29	8,515	0.34%	25	9,699	0.26%	32	7,915	0.40%	19	7,225	0.26%	24	5,929	0.40%
LR hetero	36	38,261	0.09%	67	57,085	0.12%	63	56,705	0.11%	80	67,178	0.12%	70	77,555	0.09%	73	75,013	0.10%	73	77,927	0.09%	78	78,372	0.10%
MTC <sup>2</sup>	6	1,259	0.48%	18	2,014	0.89%	13	1,822	0.71%	13	2,235	0.58%	19	1,961	0.97%	6	1,563	0.38%	7	2,005	0.35%	6	2,688	0.22%
Other <sup>3</sup>	1	723	0.14%	2	923	0.22%	4	1,159	0.35%	3	4,663	0.06%	3	6,750	0.04%	2	6,330	0.03%	3	7,371	0.04%	2	9,129	0.02%
Unknown	1,019	149,918	0.68%	771	152,360	0.51%	718	140,915	0.51%	709	139,560	0.51%	490	157,554	0.31%	485	156,802	0.31%	524	171,313	0.31%	452	162,390	0.28%
<b>Total</b>	<b>1,810</b>	<b>218,130</b>	<b>0.83%</b>	<b>1,488</b>	<b>261,870</b>	<b>0.57%</b>	<b>1,312</b>	<b>250,425</b>	<b>0.52%</b>	<b>1,326</b>	<b>253,114</b>	<b>0.52%</b>	<b>1,040</b>	<b>279,750</b>	<b>0.37%</b>	<b>933</b>	<b>268,841</b>	<b>0.35%</b>	<b>958</b>	<b>287,193</b>	<b>0.33%</b>	<b>900</b>	<b>278,518</b>	<b>0.32%</b>
Exposure category	2000			2001			2002			2003			2004			2005			2006			Total		
	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%
MSM	251	8,510	2.9%	221	8,828	2.5%	313	9,614	3.3%	265	9,625	2.8%	309	10,631	2.9%	289	11,054	2.6%	272	9,820	2.8%	4,685	137,199	3.4%
MSM-IDU	13	527	2.5%	7	466	1.5%	4	442	0.90%	5	434	1.2%	7	430	1.6%	1	414	0.24%	4	363	1.1%	163	6,727	2.4%
IDU	42	6,564	0.64%	37	6,430	0.58%	41	6,178	0.66%	38	6,026	0.63%	50	6,312	0.79%	55	6,183	0.89%	25	5,889	0.42%	846	95,226	0.89%
Clotting factor	2	586	0.34%	2	507	0.39%	0	491	0.0%	2	403	0.50%	1	390	0.26%	1	353	0.28%	1	337	0.30%	68	40,238	0.17%
Transfusion	9	1,760	0.51%	4	1,612	0.25%	3	1,506	0.20%	3	1,240	0.24%	2	1,225	0.16%	6	1,164	0.52%	2	1,154	0.17%	102	65,961	0.15%
HIV-endemic	30	1,116	2.7%	36	1,192	3.0%	47	1,319	3.6%	47	1,373	3.4%	34	1,374	2.5%	33	1,446	2.3%	42	1,492	2.8%	416	16,955	2.5%
HR hetero	19	5,324	0.36%	24	4,979	0.48%	26	4,837	0.54%	16	4,424	0.36%	22	4,357	0.50%	13	4,123	0.32%	16	3,962	0.40%	363	92,818	0.39%
LR hetero	76	75,318	0.10%	98	78,530	0.12%	115	84,325	0.14%	125	83,044	0.15%	108	89,409	0.12%	103	95,745	0.11%	122	96,870	0.13%	1,287	1,131,337	0.11%
MTC <sup>2</sup>	2	2,573	0.08%	8	3,253	0.25%	6	3,446	0.17%	4	3,480	0.11%	3	3,703	0.08%	10	2,258	0.44%	6	2,488	0.24%	127	36,748	0.35%
Other <sup>3</sup>	1	9,553	0.01%	3	10,473	0.03%	5	11,617	0.04%	4	11,016	0.04%	6	10,949	0.05%	2	11,015	0.02%	5	10,316	0.05%	46	111,987	0.04%
Unknown	449	150,446	0.30%	522	163,289	0.32%	579	213,082	0.27%	596	225,719	0.26%	635	244,136	0.26%	611	258,306	0.24%	665	280,384	0.24%	9,225	2,766,174	0.33%
<b>Total</b>	<b>894</b>	<b>262,277</b>	<b>0.34%</b>	<b>962</b>	<b>279,559</b>	<b>0.34%</b>	<b>1,139</b>	<b>336,857</b>	<b>0.34%</b>	<b>1,105</b>	<b>346,784</b>	<b>0.32%</b>	<b>1,177</b>	<b>372,916</b>	<b>0.32%</b>	<b>1,124</b>	<b>392,061</b>	<b>0.29%</b>	<b>1,160</b>	<b>413,075</b>	<b>0.28%</b>	<b>17,328</b>	<b>4,501,370</b>	<b>0.38%</b>

1 Persons identified as having had more than one test within the same year are counted only once

2 Includes only HIV-infected infants

3 Other exposure includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care



**Table 1.20 Number of HIV-positive tests (p), number tested (n)<sup>1</sup> and HIV-positivity rates (%) (adjusted<sup>2</sup>) by exposure category and year of HIV diagnosis, Ontario, 1992 to 2006**

Exposure category	Year of diagnosis																							
	1992			1993			1994			1995			1996			1997			1998			1999		
	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%
MSM	1,228	17,505	7.0%	890	15,459	5.8%	689	14,410	4.8%	732	15,426	4.7%	554	15,764	3.5%	475	15,195	3.1%	452	14,549	3.1%	418	13,975	3.0%
MSM-IDU	91	1,249	7.3%	82	1,288	6.3%	74	1,220	6.0%	72	1,174	6.1%	43	1,142	3.8%	33	1,146	2.9%	43	1,049	4.1%	33	1,137	2.9%
IDU	177	19,269	0.92%	124	16,814	0.74%	185	14,564	1.3%	138	15,276	0.90%	129	16,730	0.77%	108	16,588	0.65%	120	17,596	0.68%	129	16,450	0.78%
Clotting factor	14	3,727	0.38%	16	10,278	0.16%	6	9,963	0.06%	9	5,448	0.17%	6	3,612	0.17%	5	1,767	0.30%	2	1,512	0.14%	1	864	0.15%
Transfusion	29	7,336	0.39%	33	38,666	0.08%	27	40,973	0.07%	21	22,227	0.10%	15	14,336	0.11%	21	8,308	0.25%	25	8,507	0.29%	13	7,471	0.17%
HIV-endemic	147	7,007	2.1%	152	5,772	2.6%	140	5,140	2.7%	153	5,040	3.0%	132	5,595	2.4%	128	5,470	2.3%	135	6,149	2.2%	135	6,147	2.2%
HR hetero	52	17,397	0.30%	67	16,714	0.40%	60	14,991	0.40%	58	17,160	0.34%	39	19,921	0.20%	53	17,341	0.31%	48	16,591	0.29%	47	13,784	0.34%
LR hetero	60	137,173	0.04%	95	148,036	0.06%	99	140,356	0.07%	118	155,325	0.08%	92	182,098	0.05%	91	183,369	0.05%	112	198,697	0.06%	107	193,001	0.06%
MTC <sup>3</sup>	6	1,259	0.48%	18	2,014	0.89%	13	1,822	0.71%	13	2,235	0.58%	19	1,961	0.97%	6	1,563	0.38%	7	2,005	0.35%	6	2,688	0.22%
Other <sup>4</sup>	6	6,209	0.10%	10	6,827	0.15%	18	6,985	0.26%	11	13,802	0.08%	11	18,589	0.06%	12	18,093	0.07%	13	20,537	0.06%	11	23,001	0.05%
<b>Total</b>	<b>1,810</b>	<b>218,130</b>	<b>0.83%</b>	<b>1,488</b>	<b>261,870</b>	<b>0.57%</b>	<b>1,312</b>	<b>250,425</b>	<b>0.52%</b>	<b>1,326</b>	<b>253,114</b>	<b>0.52%</b>	<b>1,040</b>	<b>279,750</b>	<b>0.37%</b>	<b>933</b>	<b>268,841</b>	<b>0.35%</b>	<b>958</b>	<b>287,193</b>	<b>0.33%</b>	<b>900</b>	<b>278,518</b>	<b>0.32%</b>
Exposure category	2000			2001			2002			2003			2004			2005			2006			Total		
	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%
MSM	432	14,346	3.0%	403	15,124	2.7%	516	16,428	3.1%	457	16,890	2.7%	560	19,538	2.9%	546	20,649	2.6%	509	19,341	2.6%	8,862	244,601	3.6%
MSM-IDU	37	1,076	3.4%	28	992	2.8%	23	660	3.5%	25	672	3.7%	34	647	5.2%	20	635	3.2%	23	591	3.9%	661	14,678	4.5%
IDU	85	15,814	0.53%	81	15,862	0.51%	79	15,641	0.51%	72	15,822	0.46%	91	15,292	0.59%	99	15,087	0.66%	55	15,211	0.36%	1,674	242,017	0.69%
Clotting factor	2	586	0.41%	2	507	0.42%	0	491	0.06%	2	403	0.50%	1	390	0.26%	1	353	0.28%	1	337	0.30%	71	40,241	0.18%
Transfusion	18	5,303	0.35%	10	5,012	0.21%	5	4,960	0.11%	7	4,764	0.14%	4	4,138	0.10%	11	3,852	0.29%	5	4,024	0.11%	244	179,877	0.14%
HIV-endemic	165	6,226	2.6%	228	6,801	3.3%	272	9,093	3.0%	293	9,948	3.0%	240	9,099	2.6%	228	9,710	2.4%	298	10,498	2.8%	2,847	107,697	2.6%
HR hetero	40	12,393	0.32%	46	12,195	0.38%	63	13,233	0.48%	46	12,616	0.37%	56	16,461	0.34%	42	16,481	0.25%	45	16,780	0.27%	763	234,059	0.33%
LR hetero	101	180,954	0.06%	137	194,354	0.07%	152	242,461	0.06%	180	252,110	0.07%	163	275,964	0.06%	152	294,658	0.05%	195	315,775	0.06%	1,855	3,094,332	0.06%
MTC <sup>3</sup>	2	2,573	0.08%	8	3,253	0.25%	6	3,446	0.17%	4	3,480	0.11%	3	3,703	0.08%	10	2,258	0.44%	6	2,488	0.24%	127	36,748	0.35%
Other <sup>4</sup>	12	23,006	0.05%	19	25,458	0.07%	20	30,442	0.07%	19	30,078	0.06%	25	27,684	0.09%	14	28,379	0.05%	24	28,030	0.08%	225	307,120	0.07%
<b>Total</b>	<b>894</b>	<b>262,277</b>	<b>0.34%</b>	<b>962</b>	<b>279,559</b>	<b>0.34%</b>	<b>1,139</b>	<b>336,857</b>	<b>0.34%</b>	<b>1,105</b>	<b>346,784</b>	<b>0.32%</b>	<b>1,177</b>	<b>372,916</b>	<b>0.32%</b>	<b>1,124</b>	<b>392,061</b>	<b>0.29%</b>	<b>1,160</b>	<b>413,075</b>	<b>0.28%</b>	<b>17,328</b>	<b>4,501,370</b>	<b>0.38%</b>

1 Persons identified as having had more than one test within the same year are counted only once

2 Adjusted for unknown region, sex and exposure category (see text for more details); thus, total may differ due to rounding

3 Includes only HIV-infected infants

4 Other exposure includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.21 Number of HIV-positive tests (p), number tested (n)<sup>1</sup> and HIV-positivity rates (%) by exposure category and health region, Ontario, 1992 to 2006**

Exposure category	Region																										
	Northern			Ottawa			Eastern, other			Toronto			Central East, other			Central West			Southwest			Unknown			Total		
	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%
MSM	58	3,634	1.6%	427	18,767	2.3%	93	4,223	2.2%	3,468	73,510	4.7%	134	7,020	1.9%	181	8,947	2.0%	197	8,910	2.2%	127	12,188	1.0%	4,685	137,199	3.4%
MSM-IDU	5	402	1.2%	30	599	5.0%	6	836	0.72%	84	1,712	4.9%	9	596	1.5%	6	739	0.81%	11	588	1.9%	12	1,255	0.96%	163	6,727	2.4%
IDU	110	8,959	1.2%	211	8,336	2.5%	94	12,930	0.73%	202	18,355	1.1%	41	9,168	0.45%	67	12,492	0.54%	37	9,021	0.41%	84	15,965	0.53%	846	95,226	0.89%
Bleeding factor	5	3,623	0.14%	6	5,057	0.12%	2	3,084	0.06%	30	9,637	0.31%	4	6,126	0.07%	8	5,008	0.16%	4	3,645	0.11%	9	4,058	0.22%	68	40,238	0.17%
Transfusion	4	6,304	0.1%	13	5,615	0.23%	5	5,625	0.09%	43	13,680	0.31%	11	11,308	0.10%	10	9,671	0.10%	7	7,720	0.09%	9	6,038	0.15%	102	65,961	0.15%
HIV-endemic	7	792	0.88%	75	3,005	2.5%	8	878	0.91%	228	6,501	3.5%	27	1,839	1.5%	33	1,601	2.1%	19	1,177	1.6%	19	1,162	1.6%	416	16,955	2.5%
HR hetero	21	9,560	0.22%	37	7,482	0.49%	15	6,538	0.23%	157	21,059	0.75%	34	12,460	0.27%	40	13,043	0.31%	32	9,925	0.32%	27	12,751	0.21%	363	92,818	0.39%
LR hetero	42	69,347	0.06%	160	144,572	0.11%	41	75,614	0.05%	671	317,603	0.21%	117	170,256	0.07%	108	134,041	0.08%	97	127,846	0.08%	51	92,058	0.06%	1,287	1,131,337	0.11%
MTC <sup>2</sup>	0	1,166	0.0%	21	4,392	0.48%	0	1,296	0.0%	80	13,490	0.59%	7	10,380	0.07%	8	2,922	0.27%	5	2,256	0.22%	6	846	0.71%	127	36,748	0.35%
Other <sup>3</sup>	0	11,373	0.0%	9	10,600	0.08%	1	10,449	0.0%	15	27,761	0.05%	5	14,067	0.0%	3	14,719	0.02%	3	17,043	0.02%	10	5,975	0.17%	46	111,987	0.0%
Unknown	167	97,756	0.17%	1,073	248,857	0.43%	247	137,809	0.18%	5,334	1,156,331	0.46%	593	456,236	0.13%	696	297,697	0.23%	690	206,794	0.33%	425	164,694	0.26%	9,225	2,766,174	0.33%
<b>Total<sup>4</sup></b>	<b>419</b>	<b>212,916</b>	<b>0.20%</b>	<b>2,062</b>	<b>457,282</b>	<b>0.45%</b>	<b>512</b>	<b>259,282</b>	<b>0.20%</b>	<b>10,312</b>	<b>1,659,639</b>	<b>0.62%</b>	<b>982</b>	<b>699,456</b>	<b>0.14%</b>	<b>1,160</b>	<b>500,880</b>	<b>0.23%</b>	<b>1,102</b>	<b>394,925</b>	<b>0.28%</b>	<b>779</b>	<b>316,990</b>	<b>0.25%</b>	<b>17,328</b>	<b>4,501,370</b>	<b>0.38%</b>

<sup>1</sup> Persons identified as having had more than one test within the same year are counted only once

<sup>2</sup> Includes only HIV-infected infants

<sup>3</sup> Other exposure includes needle-stick, acupuncture, tattoo, etc.

<sup>4</sup> Total includes 701 HIV-positive tests (p) and 155,439 tests (n) of unknown sex, which represent 4.0% and 3.5% of the totals, respectively

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.22 Number of HIV-positive tests (p), number tested (n)<sup>1</sup> and HIV-positivity rates (%) (adjusted<sup>2</sup>) by exposure category and health region, Ontario, 1992 to 2006**

Exposure category	Region																							
	Northern			Ottawa			Eastern, other			Toronto			Central East, other			Central West			Southwest			Total		
	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%
MSM	98	7,224	1.4%	815	29,521	2.8%	201	9,981	2.0%	6,297	130,472	4.8%	365	23,153	1.6%	474	20,787	2.3%	612	23,463	2.6%	8,862	244,601	3.6%
MSM-IDU	10	461	2.2%	106	4,431	2.4%	29	2,076	1.4%	352	4,063	8.7%	49	1,546	3.2%	68	1,365	5.0%	48	736	6.5%	661	14,678	4.5%
IDU	210	17,526	1.2%	397	38,826	1.0%	150	29,284	0.51%	556	73,522	0.76%	108	31,656	0.34%	169	28,580	0.59%	84	22,622	0.37%	1,674	242,017	0.69%
Clotting factor	6	3,642	0.16%	9	5,694	0.16%	2	3,453	0.06%	37	10,673	0.34%	5	7,171	0.06%	8	5,560	0.14%	5	4,049	0.11%	71	40,241	0.18%
Transfusion	7	11,152	0.07%	40	24,558	0.16%	12	19,498	0.06%	117	41,076	0.28%	30	26,761	0.11%	21	21,593	0.10%	18	35,240	0.05%	244	179,877	0.14%
HIV-endemic	9	1,638	0.56%	519	11,360	4.6%	57	4,418	1.3%	1,093	54,262	3.1%	187	17,414	1.1%	204	11,571	1.8%	177	7,035	2.5%	2,847	107,697	2.6%
HR hetero	46	22,097	0.21%	75	35,626	0.21%	33	22,887	0.14%	373	68,104	0.55%	77	31,699	0.24%	79	28,971	0.27%	80	24,675	0.32%	763	234,059	0.33%
LR hetero	56	130,360	0.04%	158	301,933	0.05%	55	161,182	0.03%	1,149	1,282,550	0.09%	158	564,614	0.03%	159	382,884	0.04%	121	270,811	0.04%	1,855	3,094,332	0.06%
MTC <sup>3</sup>	0	1,170	0.0%	22	4,516	0.49%	0	1,336	0.0%	83	13,883	0.60%	7	10,512	0.07%	9	3,011	0.29%	6	2,319	0.24%	127	36,748	0.35%
Other <sup>4</sup>	0	24,792	0.0%	36	41,944	0.09%	2	27,855	0.0%	110	96,269	0.11%	38	43,291	0.09%	23	35,659	0.06%	16	37,311	0.04%	225	307,120	0.07%
<b>Total<sup>5</sup></b>	<b>442</b>	<b>220,061</b>	<b>0.20%</b>	<b>2,176</b>	<b>498,408</b>	<b>0.44%</b>	<b>541</b>	<b>281,970</b>	<b>0.19%</b>	<b>10,766</b>	<b>1,774,872</b>	<b>0.61%</b>	<b>1,025</b>	<b>757,817</b>	<b>0.14%</b>	<b>1,213</b>	<b>539,981</b>	<b>0.22%</b>	<b>1,165</b>	<b>428,261</b>	<b>0.27%</b>	<b>17,328</b>	<b>4,501,370</b>	<b>0.38%</b>

1 Persons identified as having had more than one test within the same year are counted only once

2 Adjusted for unknown region, sex and exposure category (see text for more details); thus, total may differ due to rounding

3 Includes only HIV-infected infants

4 Other exposure includes needle-stick, acupuncture, tattoo, etc.

5 Total includes 701 HIV-positive tests (p) and 155,439 tests (n) of unknown sex, which represent 4.0% and 3.5% of the totals, respectively

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.23 Number of HIV-positive tests (p), number tested (n)<sup>1</sup> and HIV-positivity rates (%) (adjusted<sup>2</sup>) by sex, exposure category and health region, Ontario, 1992 to 2006**

Exposure category	Region																										
	Northern			Ottawa			Eastern, other			Toronto			Central East, other			Central West			Southwest			Total					
Males	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%
MSM	98	7,224	1.4%	815	29,521	2.8%	201	9,981	2.0%	6,297	130,472	4.8%	365	23,153	1.6%	474	20,787	2.3%	612	23,463	2.6%	8,862	244,601	3.6%			
MSM-IDU	10	461	2.2%	106	4,431	2.4%	29	2,076	1.4%	352	4,063	8.7%	49	1,546	3.2%	68	1,365	5.0%	48	736	6.5%	661	14,678	4.5%			
IDU	130	9,154	1.4%	280	22,472	1.2%	118	19,649	0.60%	377	47,779	0.79%	76	19,953	0.38%	116	18,160	0.64%	52	16,233	0.32%	1,150	153,400	0.75%			
Clotting factor	5	1,406	0.33%	8	2,098	0.38%	2	1,354	0.14%	25	4,895	0.51%	3	2,585	0.12%	6	2,028	0.29%	5	1,546	0.29%	53	15,912	0.33%			
Transfusion	0	2,185	0.0%	5	7,966	0.07%	9	7,097	0.13%	47	15,394	0.30%	17	9,068	0.19%	15	7,453	0.20%	12	18,804	0.07%	105	67,967	0.15%			
HIV-endemic	3	440	0.72%	240	8,395	2.9%	44	3,466	1.3%	808	29,496	2.7%	91	8,541	1.1%	79	5,758	1.4%	92	3,701	2.5%	1,357	59,798	2.3%			
HR hetero	24	2,879	0.82%	41	13,553	0.30%	7	8,554	0.08%	175	18,268	0.96%	28	7,859	0.36%	19	8,199	0.24%	16	8,778	0.19%	310	68,089	0.46%			
LR hetero	40	58,751	0.07%	117	116,565	0.10%	38	65,740	0.06%	728	547,758	0.13%	100	215,403	0.05%	83	158,674	0.05%	77	94,008	0.08%	1,183	1,256,898	0.09%			
MTC <sup>3</sup>	0	563	0.0%	6	2,308	0.25%	0	722	0.0%	37	7,505	0.49%	2	4,819	0.05%	3	1,525	0.20%	4	1,209	0.29%	52	18,651	0.28%			
Other <sup>4</sup>	0	8,481	0.0%	19	12,138	0.16%	2	8,188	0.0%	74	41,110	0.18%	21	14,104	0.15%	13	13,759	0.09%	10	10,673	0.10%	139	108,453	0.13%			
<b>Total</b>	<b>309</b>	<b>91,545</b>	<b>0.34%</b>	<b>1,638</b>	<b>219,445</b>	<b>0.75%</b>	<b>450</b>	<b>126,827</b>	<b>0.35%</b>	<b>8,919</b>	<b>846,738</b>	<b>1.1%</b>	<b>752</b>	<b>307,032</b>	<b>0.24%</b>	<b>876</b>	<b>237,708</b>	<b>0.37%</b>	<b>928</b>	<b>179,152</b>	<b>0.52%</b>	<b>13,871</b>	<b>2,008,447</b>	<b>0.69%</b>			
Females	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%
IDU	80	8,373	0.95%	116	16,354	0.71%	32	9,636	0.33%	179	25,743	0.69%	32	11,702	0.28%	52	10,420	0.50%	32	6,389	0.50%	524	88,617	0.59%			
Clotting factor	1	2,235	0.05%	1	3,596	0.03%	0	2,099	0.0%	12	5,778	0.20%	2	4,585	0.03%	2	3,532	0.06%	0	2,503	0.0%	18	24,329	0.07%			
Transfusion	7	8,966	0.08%	35	16,592	0.21%	3	12,401	0.02%	70	25,682	0.27%	14	17,693	0.08%	6	14,140	0.04%	5	16,436	0.03%	140	111,910	0.12%			
HIV-endemic	6	1,198	0.50%	278	2,965	9.4%	14	952	1.4%	886	24,765	3.6%	95	8,873	1.1%	125	5,813	2.2%	85	3,334	2.6%	1,489	47,899	3.1%			
HR hetero	22	19,218	0.12%	34	22,073	0.15%	26	14,332	0.18%	198	49,837	0.40%	49	23,841	0.21%	60	20,772	0.29%	63	15,898	0.40%	452	165,970	0.27%			
LR hetero	17	71,609	0.02%	41	185,368	0.02%	16	95,443	0.02%	421	734,792	0.06%	58	349,211	0.02%	76	224,210	0.03%	44	176,803	0.02%	672	1,837,434	0.04%			
MTC <sup>3</sup>	0	607	0.0%	16	2,209	0.75%	0	615	0.0%	46	6,378	0.72%	5	5,693	0.09%	6	1,486	0.38%	2	1,110	0.18%	75	18,097	0.42%			
Other <sup>4</sup>	0	16,310	0.0%	17	29,807	0.06%	0	19,667	0.0%	36	55,159	0.06%	17	29,187	0.06%	10	21,900	0.05%	6	26,637	0.02%	86	198,667	0.04%			
<b>Total</b>	<b>133</b>	<b>128,516</b>	<b>0.10%</b>	<b>538</b>	<b>278,963</b>	<b>0.19%</b>	<b>91</b>	<b>155,144</b>	<b>0.06%</b>	<b>1,847</b>	<b>928,134</b>	<b>0.20%</b>	<b>273</b>	<b>450,784</b>	<b>0.06%</b>	<b>337</b>	<b>302,272</b>	<b>0.11%</b>	<b>238</b>	<b>249,109</b>	<b>0.10%</b>	<b>3,457</b>	<b>2,492,923</b>	<b>0.14%</b>			

1 Persons identified as having had more than one test within the same year are counted only once

2 Adjusted for unknown region, sex and exposure category (see text for more details); thus, total may differ due to rounding

3 Includes only HIV-infected infants

4 Other exposure includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.24 Number of HIV-positive tests (p), number tested (n)<sup>1</sup> and HIV-positivity rates (%) by exposure category and health region, Ontario, 2006**

Exposure category	Region														
	Northern			Ottawa			Eastern, other			Toronto			Central East, other		
	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%
MSM	3	294	1.0%	33	1,537	2.1%	9	385	2.3%	195	5,364	3.6%	10	615	1.6%
MSM-IDU	0	35	0.0%	1	28	3.6%	1	68	1.5%	2	120	1.7%	0	34	0.0%
IDU	6	812	0.74%	5	494	1.0%	4	1,022	0.39%	8	1,160	0.69%	0	632	0.0%
Clotting factor	0	44	0.0%	0	28	0.0%	0	23	0.0%	0	95	0.0%	0	54	0.0%
Transfusion	1	176	0.57%	0	90	0.0%	1	84	1.2%	0	347	0.0%	0	131	0.0%
HIV-endemic	0	80	0.0%	14	210	6.7%	1	61	1.6%	17	676	2.5%	3	195	1.5%
HR hetero	1	523	0.19%	2	307	0.65%	1	335	0.30%	6	968	0.62%	5	610	0.82%
LR hetero	5	6,390	0.08%	10	11,134	0.09%	4	6,548	0.06%	71	31,818	0.22%	13	15,345	0.08%
MTC <sup>2</sup>	0	56	0.0%	0	351	0.0%	0	90	0.0%	4	1,232	0.32%	0	310	0.0%
Other <sup>3</sup>	0	993	0.0%	2	1,145	0.17%	0	952	0.0%	3	2,766	0.11%	0	1,419	0.0%
Unknown	10	8,045	0.12%	86	25,324	0.34%	13	11,070	0.12%	388	124,629	0.31%	40	58,662	0.07%
<b>Total<sup>4</sup></b>	<b>26</b>	<b>17,448</b>	<b>0.15%</b>	<b>153</b>	<b>40,648</b>	<b>0.38%</b>	<b>34</b>	<b>20,638</b>	<b>0.16%</b>	<b>694</b>	<b>169,175</b>	<b>0.41%</b>	<b>71</b>	<b>78,074</b>	<b>0.09%</b>

<sup>1</sup> Persons identified as having had more than one test within the same year are counted only once

<sup>2</sup> Includes only HIV-infected infants

<sup>3</sup> Other exposure includes needle-stick, acupuncture, tattoo, etc.

<sup>4</sup> Total includes 19 HIV-positive tests (p) and 10,269 tests (n) of unknown sex, which represent 1.6% and 2.5% of the totals, respectively

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care



**Table 1.25 Number of HIV-positive tests (p), number tested (n)<sup>1</sup> and HIV-positivity rates (%) (adjusted<sup>2</sup>) by exposure category and health region, Ontario, 2006**

Exposure category	Region																							
	Northern			Ottawa			Eastern, other			Toronto			Central East, other			Central West			Southwest			Total		
	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%
MSM	4	539	0.83%	58	1,722	3.4%	14	494	2.9%	340	9,346	3.6%	27	2,451	1.1%	39	1,927	2.0%	26	2,863	0.91%	509	19,341	2.6%
MSM-IDU	0	32	0.67%	4	31	12.1%	2	70	3.1%	12	244	5.1%	1	118	0.83%	3	60	4.6%	0	37	1.1%	23	591	3.9%
IDU	11	1,198	0.95%	8	1,723	0.44%	6	1,672	0.33%	21	4,278	0.49%	2	2,423	0.06%	8	2,159	0.37%	0	1,758	0.01%	55	15,211	0.36%
Clotting factor	0	42	0.0%	0	28	0.0%	0	23	0.0%	0	96	0.0%	0	56	0.0%	1	58	1.7%	0	33	0.0%	1	337	0.30%
Transfusion	2	275	0.67%	0	599	0.0%	1	255	0.59%	1	1,108	0.06%	0	677	0.02%	0	439	0.0%	0	671	0.07%	5	4,024	0.11%
HIV-endemic	0	77	0.0%	57	1,459	3.9%	5	556	0.98%	165	4,242	3.9%	18	2,214	0.80%	34	1,227	2.7%	19	723	2.7%	298	10,498	2.8%
HR hetero	2	677	0.27%	5	4,632	0.10%	1	2,220	0.04%	25	3,958	0.62%	8	2,194	0.35%	2	1,671	0.13%	4	1,428	0.25%	45	16,780	0.27%
LR hetero	6	11,659	0.05%	17	27,211	0.06%	4	13,435	0.03%	116	136,698	0.08%	14	64,157	0.02%	28	38,398	0.07%	9	24,218	0.04%	195	315,775	0.06%
MTC <sup>3</sup>	0	53	0.0%	0	352	0.0%	0	90	0.0%	5	1,237	0.40%	0	314	0.0%	1	237	0.42%	0	204	0.0%	6	2,488	0.24%
Other <sup>4</sup>	0	1,915	0.0%	6	3,169	0.18%	0	1,968	0.0%	14	9,146	0.16%	2	5,139	0.03%	2	3,724	0.06%	0	2,969	0.0%	24	28,030	0.08%
Total <sup>5</sup>	26	16,467	0.16%	154	40,927	0.38%	34	20,783	0.16%	698	170,353	0.41%	71	79,742	0.09%	118	49,899	0.24%	59	34,903	0.17%	1,160	413,075	0.28%

1 Persons identified as having had more than one test within the same year are counted only once

2 Adjusted for unknown region, sex and exposure category (see text for more details); thus, total may differ due to rounding

3 Includes only HIV-infected infants

4 Other exposure includes needle-stick, acupuncture, tattoo, etc.

5 Total includes 19 HIV-positive tests (p) and 10,269 tests (n) of unknown sex, which represent 1.6% and 2.5% of the totals, respectively

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care



**Table 1.26 Number of HIV-positive tests (p), number tested (n)<sup>1</sup> and HIV-positivity rates (%) (adjusted<sup>2</sup>) by sex, exposure category and health region, Ontario, 2006**

Exposure category	Region																							
	Northern			Ottawa			Eastern, other			Toronto			Central East, other			Central West			Southwest			Total		
Males	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%
MSM	4	539	0.83%	58	1,722	3.4%	14	494	2.9%	340	9,346	3.6%	27	2,451	1.1%	39	1,927	2.0%	26	2,863	0.91%	509	19,341	2.6%
MSM-IDU	0	32	0.67%	4	31	12.1%	2	70	3.1%	12	244	5.1%	1	118	0.83%	3	60	4.6%	0	37	1.1%	23	591	3.9%
IDU	6	661	0.90%	5	888	0.55%	5	1,057	0.48%	15	3,159	0.47%	1	1,663	0.06%	3	1,327	0.23%	0	1,173	0.0%	35	9,928	0.35%
Clotting factor	0	20	0.0%	0	8	0.0%	0	10	0.0%	0	25	0.0%	0	21	0.0%	1	21	4.8%	0	9	0.0%	1	114	0.88%
Transfusion	0	66	0.0%	0	110	0.0%	1	91	1.6%	0	542	0.06%	0	201	0.0%	0	166	0.0%	0	279	0.08%	2	1,456	0.14%
HIV-endemic	0	39	0.0%	17	972	1.8%	4	345	1.2%	55	2,742	2.0%	10	1,120	0.89%	6	692	0.91%	8	211	4.0%	101	6,121	1.7%
HR hetero	0	157	0.0%	2	1,056	0.18%	1	631	0.14%	11	1,275	0.86%	1	665	0.16%	0	526	0.0%	1	372	0.24%	16	4,682	0.33%
LR hetero	4	4,977	0.08%	12	11,804	0.10%	2	6,408	0.03%	60	56,849	0.11%	12	25,378	0.05%	12	16,584	0.07%	6	9,732	0.06%	108	131,732	0.08%
MTC <sup>3</sup>	0	19	0.0%	0	155	0.0%	0	58	0.0%	1	593	0.17%	0	137	0.0%	1	127	0.78%	0	102	0.0%	2	1,192	0.17%
Other <sup>4</sup>	0	722	0.0%	6	1,157	0.50%	0	741	0.0%	12	4,310	0.28%	1	1,902	0.05%	1	1,500	0.08%	0	778	0.0%	20	11,109	0.18%
Total	15	7,231	0.20%	104	17,903	0.58%	30	9,905	0.30%	507	79,085	0.64%	53	33,655	0.16%	66	22,932	0.29%	42	15,555	0.27%	816	186,266	0.44%
Females	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%	p	n	%
IDU	5	537	1.0%	3	836	0.33%	0	614	0.08%	6	1,120	0.56%	1	760	0.08%	5	832	0.60%	0	586	0.02%	21	5,283	0.39%
Clotting factor	0	22	0.0%	0	20	0.0%	0	13	0.0%	0	70	0.0%	0	35	0.0%	0	37	0.0%	0	24	0.0%	0	223	0.0%
Transfusion	2	209	0.88%	0	489	0.0%	0	164	0.0%	0	566	0.06%	0	476	0.03%	0	273	0.0%	0	392	0.06%	3	2,568	0.10%
HIV-endemic	0	38	0.0%	39	487	8.1%	1	211	0.70%	109	1,500	7.3%	8	1,094	0.71%	27	534	5.1%	11	512	2.2%	196	4,377	4.5%
HR hetero	2	521	0.36%	3	3,576	0.08%	0	1,589	0.0%	14	2,684	0.51%	6	1,529	0.42%	2	1,144	0.19%	3	1,055	0.25%	29	12,098	0.24%
LR hetero	2	6,682	0.03%	5	15,407	0.03%	2	7,027	0.0%	55	79,849	0.07%	2	38,780	0.01%	17	21,813	0.08%	3	14,486	0.02%	87	184,043	0.05%
MTC <sup>3</sup>	0	34	0.0%	0	197	0.0%	0	33	0.0%	4	644	0.62%	0	177	0.0%	0	109	0.0%	0	102	0.0%	4	1,296	0.31%
Other <sup>4</sup>	0	1,193	0.0%	0	2,012	0.0%	0	1,227	0.0%	2	4,836	0.05%	1	3,237	0.02%	1	2,224	0.04%	0	2,191	0.0%	4	16,921	0.02%
Total	11	9,236	0.12%	50	23,024	0.22%	4	10,879	0.04%	191	91,269	0.21%	18	46,087	0.04%	52	26,967	0.19%	17	19,348	0.09%	344	226,809	0.15%

<sup>1</sup> Persons identified as having had more than one test within the same year are counted only once

<sup>2</sup> Adjusted for unknown region, sex and exposure category (see text for more details); thus, total may differ due to rounding

<sup>3</sup> Includes only HIV-infected infants

<sup>4</sup> Other exposure includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.27 Number of HIV tests by year of test and sex, Ontario, 1992 to 2006**

Year of diagnosis	Male	Female		Unknown	Total
	Number	Number	% female <sup>1</sup>	Number	Number
1992	100,794	104,970	51.0%	12,366	218,130
1993	119,104	132,444	52.7%	10,322	261,870
1994	111,618	127,976	53.4%	10,831	250,425
1995	113,753	130,680	53.5%	8,681	253,114
1996	120,578	149,010	55.3%	10,162	279,750
1997	112,821	145,844	56.4%	10,176	268,841
1998	112,728	162,525	59.0%	11,940	287,193
1999	110,378	155,191	58.4%	12,949	278,518
2000	110,622	140,519	56.0%	11,136	262,277
2001	117,671	150,592	56.1%	11,296	279,559
2002	144,703	182,803	55.8%	9,351	336,857
2003	149,187	189,302	55.9%	8,295	346,784
2004	161,664	202,192	55.6%	9,060	372,916
2005	173,488	209,987	54.8%	8,586	392,061
2006	181,762	221,025	54.9%	10,288	413,075
<b>Total</b>	<b>1,940,871</b>	<b>2,405,060</b>	<b>55.3%</b>	<b>155,439</b>	<b>4,501,370</b>

1 Percent of cases with known sex

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.28 Number of HIV tests (adjusted<sup>1</sup>) and testing rate per 1,000 by year of Test and sex, Ontario, 1992 to 2006**

Year of diagnosis	Male		Female		Total	
	Number	Rate	Number	Rate	Number	Rate
1992	106,802	20.5	111,328	20.8	218,130	20.6
1993	123,958	23.5	137,912	25.5	261,870	24.5
1994	116,614	21.8	133,811	24.4	250,425	23.1
1995	117,740	21.8	135,374	24.4	253,114	23.1
1996	125,074	22.9	154,676	27.5	279,750	25.2
1997	117,158	21.2	151,683	26.6	268,841	23.9
1998	117,395	20.9	169,798	29.5	287,193	25.3
1999	115,480	20.3	163,038	28.0	278,518	24.2
2000	115,323	20.0	146,954	24.8	262,277	22.4
2001	122,462	20.8	157,097	26.1	279,559	23.5
2002	148,726	24.9	188,131	30.7	336,857	27.8
2003	152,710	25.2	194,074	31.3	346,784	28.3
2004	165,543	27.0	207,373	33.0	372,916	30.1
2005	177,196	28.6	214,865	33.8	392,061	31.3
2006	186,266	31.4	226,809	36.4	413,075	34.0
<b>Total</b>	<b>2,008,447</b>		<b>2,492,923</b>		<b>4,501,370</b>	

1 Cases with unknown sex reassigned according to the sex distribution among testers that year

Data sources: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care  
1992-2005 population estimates provided by Health Data and Decision Support Unit, Knowledge Management Branch, Ontario Ministry of Health and Long-Term Care  
2006 census population provided by Statistics Canada

**Table 1.29 Number and proportion<sup>1</sup> of HIV tests by exposure category and year of test, Ontario, 1992 to 2006**

Exposure category	Year of test															
	1992		1993		1994		1995		1996		1997		1998		1999	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	8,440	12.4%	8,618	7.9%	8,332	7.6%	9,092	8.0%	9,181	7.5%	8,775	7.8%	8,432	7.3%	8,247	7.1%
MSM-IDU	348	0.51%	477	0.44%	457	0.42%	456	0.40%	481	0.39%	457	0.41%	460	0.40%	515	0.44%
IDU	6,013	8.8%	6,524	6.0%	5,766	5.3%	6,325	5.6%	6,720	5.5%	6,553	5.8%	7,017	6.1%	6,726	5.8%
Clotting factor	3,727	5.5%	10,278	9.4%	9,963	9.1%	5,448	4.8%	3,612	3.0%	1,767	1.6%	1,512	1.3%	864	0.74%
Transfusion	1,845	2.7%	14,854	13.6%	17,209	15.7%	8,686	7.6%	5,267	4.3%	2,821	2.5%	2,968	2.6%	2,650	2.3%
HIV-endemic	1,058	1.6%	956	0.87%	887	0.81%	956	0.84%	970	0.79%	845	0.75%	963	0.83%	1,008	0.87%
HR hetero	6,538	9.6%	7,781	7.1%	7,210	6.6%	8,515	7.5%	9,699	7.9%	7,915	7.1%	7,225	6.2%	5,929	5.1%
LR hetero	38,261	56.1%	57,085	52.1%	56,705	51.8%	67,178	59.2%	77,555	63.5%	75,013	67.0%	77,927	67.2%	78,372	67.5%
MTC <sup>2</sup>	1,259	1.8%	2,014	1.8%	1,822	1.7%	2,235	2.0%	1,961	1.6%	1,563	1.4%	2,005	1.7%	2,688	2.3%
Other <sup>3</sup>	723	1.1%	923	0.84%	1,159	1.1%	4,663	4.1%	6,750	5.5%	6,330	5.6%	7,371	6.4%	9,129	7.9%
Unknown	149,918		152,360		140,915		139,560		157,554		156,802		171,313		162,390	
Total	218,130	100%	261,870	100%	250,425	100%	253,114	100%	279,750	100%	268,841	100%	287,193	100%	278,518	100%
	2000		2001		2002		2003		2004		2005		2006		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	8,510	7.6%	8,828	7.6%	9,614	7.8%	9,625	8.0%	10,631	8.3%	11,054	8.3%	9,820	7.4%	137,199	7.9%
MSM-IDU	527	0.47%	466	0.40%	442	0.36%	434	0.36%	430	0.33%	414	0.31%	363	0.27%	6,727	0.39%
IDU	6,564	5.9%	6,430	5.5%	6,178	5.0%	6,026	5.0%	6,312	4.9%	6,183	4.6%	5,889	4.4%	95,226	5.5%
Clotting factor	586	0.52%	507	0.44%	491	0.40%	403	0.33%	390	0.30%	353	0.26%	337	0.25%	40,238	2.3%
Transfusion	1,760	1.6%	1,612	1.4%	1,506	1.2%	1,240	1.0%	1,225	0.95%	1,164	0.87%	1,154	0.87%	65,961	3.8%
HIV-endemic	1,110	1.0%	1,192	1.0%	1,319	1.1%	1,373	1.1%	1,374	1.1%	1,446	1.1%	1,492	1.1%	16,955	0.98%
HR hetero	5,324	4.8%	4,979	4.3%	4,837	3.9%	4,424	3.7%	4,357	3.4%	4,123	3.1%	3,962	3.0%	92,818	5.3%
LR hetero	75,318	67.3%	78,530	67.5%	84,325	68.1%	83,044	68.6%	89,409	69.4%	95,745	71.6%	96,870	73.0%	1,131,337	65.2%
MTC <sup>2</sup>	2,573	2.3%	3,253	2.8%	3,446	2.8%	3,480	2.9%	3,703	2.9%	2,258	1.7%	2,488	1.9%	36,748	2.1%
Other <sup>3</sup>	9,553	8.5%	10,473	9.0%	11,617	9.4%	11,016	9.1%	10,949	8.5%	11,015	8.2%	10,316	7.8%	111,987	6.5%
Unknown	150,446		163,289		213,082		225,719		244,136		258,306		280,384		2,766,174	
Total	262,277	100%	279,559	100%	336,857	100%	346,784	100%	372,916	100%	392,061	100%	413,075	100%	4,501,370	100%

<sup>1</sup> Column percent of cases with known source of exposure

<sup>2</sup> Includes only HIV-infected infants

<sup>3</sup> Other exposure includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.30 Number and proportion<sup>1</sup> of HIV tests (adjusted<sup>2</sup>) by exposure category and year of test, Ontario, 1992 to 2006**

Exposure category	Year of test															
	1992		1993		1994		1995		1996		1997		1998		1999	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	17,505	8.0%	15,459	5.9%	14,410	5.8%	15,426	6.1%	15,764	5.6%	15,195	5.7%	14,549	5.1%	13,975	5.0%
MSM-IDU	1,249	0.57%	1,288	0.49%	1,220	0.49%	1,174	0.46%	1,142	0.41%	1,146	0.43%	1,049	0.37%	1,137	0.41%
IDU	19,269	8.8%	16,814	6.4%	14,564	5.8%	15,276	6.0%	16,730	6.0%	16,588	6.2%	17,596	6.1%	16,450	5.9%
Clotting factor	3,727	1.7%	10,278	3.9%	9,963	4.0%	5,448	2.2%	3,612	1.3%	1,767	0.66%	1,512	0.53%	864	0.31%
Transfusion	7,336	3.4%	38,666	14.8%	40,973	16.4%	22,227	8.8%	14,336	5.1%	8,308	3.1%	8,507	3.0%	7,471	2.7%
HIV-endemic	7,007	3.2%	5,772	2.2%	5,140	2.1%	5,040	2.0%	5,595	2.0%	5,470	2.0%	6,149	2.1%	6,147	2.2%
HR hetero	17,397	8.0%	16,714	6.4%	14,991	6.0%	17,160	6.8%	19,921	7.1%	17,341	6.5%	16,591	5.8%	13,784	4.9%
LR hetero	137,173	62.9%	148,036	56.5%	140,356	56.0%	155,325	61.4%	182,098	65.1%	183,369	68.2%	198,697	69.2%	193,001	69.3%
MTC <sup>3</sup>	1,259	0.58%	2,014	0.77%	1,822	0.73%	2,235	0.88%	1,961	0.70%	1,563	0.58%	2,005	0.70%	2,688	0.97%
Other <sup>4</sup>	6,209	2.8%	6,827	2.6%	6,985	2.8%	13,802	5.5%	18,589	6.6%	18,093	6.7%	20,537	7.2%	23,001	8.3%
Total	218,130	100%	261,870	100%	250,425	100%	253,114	100%	279,750	100%	268,841	100%	287,193	100%	278,518	100%
	2000		2001		2002		2003		2004		2005		2006		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	14,346	5.5%	15,124	5.4%	16,428	4.9%	16,890	4.9%	19,538	5.2%	20,649	5.3%	19,341	4.7%	244,601	5.4%
MSM-IDU	1,076	0.41%	992	0.35%	660	0.20%	672	0.19%	647	0.17%	635	0.16%	591	0.14%	14,678	0.33%
IDU	15,814	6.0%	15,862	5.7%	15,641	4.6%	15,822	4.6%	15,292	4.1%	15,087	3.8%	15,211	3.7%	242,017	5.4%
Clotting factor	586	0.22%	507	0.18%	491	0.15%	403	0.12%	390	0.10%	353	0.09%	337	0.08%	40,241	0.89%
Transfusion	5,303	2.0%	5,012	1.8%	4,960	1.5%	4,764	1.4%	4,138	1.1%	3,852	0.98%	4,024	0.97%	179,877	4.0%
HIV-endemic	6,226	2.4%	6,801	2.4%	9,093	2.7%	9,948	2.9%	9,099	2.4%	9,710	2.5%	10,498	2.5%	107,697	2.4%
HR hetero	12,393	4.7%	12,195	4.4%	13,233	3.9%	12,616	3.6%	16,461	4.4%	16,481	4.2%	16,780	4.1%	234,059	5.2%
LR hetero	180,954	69.0%	194,354	69.5%	242,461	72.0%	252,110	72.7%	275,964	74.0%	294,658	75.2%	315,775	76.4%	3,094,332	68.7%
MTC <sup>3</sup>	2,573	0.98%	3,253	1.2%	3,446	1.0%	3,480	1.0%	3,703	0.99%	2,258	0.58%	2,488	0.60%	36,748	0.82%
Other <sup>4</sup>	23,006	8.8%	25,458	9.1%	30,442	9.0%	30,078	8.7%	27,684	7.4%	28,379	7.2%	28,030	6.8%	307,120	6.8%
Total	262,277	100%	279,559	100%	336,857	100%	346,784	100%	372,916	100%	392,061	100%	413,075	100%	4,501,370	100%

1 Column percent of cases with known source of exposure

2 Adjusted for unknown region, sex and exposure category (see text for more details); thus, total may differ due to rounding

3 Includes only HIV-infected infants

4 Other exposure includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.31 Number and proportion<sup>1</sup> of HIV tests by age group and exposure category, Ontario, 1992 to 2006**

Age group (year)	MSM		MSM-IDU		IDU		Clotting factor Transfusion		HIV-endemic		HR hetero		LR hetero		MTC <sup>2</sup>		Other <sup>3</sup>		Unk.	Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	No.
<1	33	0.02%	1	0.02%	30	0.03%	61	0.16%	29	0.05%	54	0.33%	27	0.03%	304	0.03%	15,166	41.3%	0	15,719
1-9	69	0.05%	1	0.02%	61	0.07%	1,339	3.5%	1,351	2.1%	216	1.3%	59	0.06%	313	0.03%	20,437	55.7%	0	23,849
10-14	277	0.21%	12	0.18%	399	0.43%	1,925	5.0%	2,479	3.9%	126	0.77%	743	0.82%	4,602	0.41%	681	1.9%	379	28,945
15-19	5,929	4.4%	353	5.3%	5,661	6.1%	1,550	4.0%	2,448	3.8%	1,085	6.6%	12,594	13.9%	125,330	11.3%	299	0.82%	1,722	340,918
20-24	18,358	13.8%	923	14.0%	11,670	12.5%	1,712	4.4%	3,185	5.0%	2,929	17.8%	18,436	20.3%	276,714	24.9%	95	0.26%	7,231	754,799
25-29	22,698	17.0%	1,268	19.2%	14,688	15.8%	2,211	5.7%	3,723	5.8%	3,246	19.8%	16,083	17.7%	219,522	19.8%	0	0.0%	12,693	766,105
30-34	24,472	18.3%	1,323	20.0%	17,768	19.1%	3,335	8.6%	5,360	8.4%	2,688	16.4%	13,696	15.1%	167,906	15.1%	0	0.0%	14,042	717,140
35-39	21,142	15.8%	1,130	17.1%	17,635	19.0%	4,213	10.9%	7,168	11.2%	2,117	12.9%	11,275	12.4%	122,352	11.0%	0	0.0%	14,393	567,015
40-44	15,457	11.6%	787	11.9%	13,293	14.3%	4,433	11.5%	6,952	10.8%	1,460	8.9%	8,078	8.9%	81,672	7.4%	0	0.0%	14,529	393,299
45-49	10,264	7.7%	481	7.3%	7,382	7.9%	3,604	9.3%	6,261	9.8%	952	5.8%	4,860	5.4%	50,489	4.6%	0	0.0%	12,992	257,907
50-54	6,656	5.0%	212	3.2%	2,962	3.2%	2,810	7.3%	5,073	7.9%	605	3.7%	2,583	2.8%	27,796	2.5%	0	0.0%	10,681	164,349
55-59	4,077	3.1%	87	1.3%	906	0.97%	2,644	6.9%	4,493	7.0%	373	2.3%	1,179	1.3%	15,134	1.4%	0	0.0%	6,385	106,162
60+	3,993	3.0%	34	0.51%	579	0.62%	8,736	22.6%	15,633	24.4%	565	3.4%	1,157	1.3%	17,410	1.6%	0	0.0%	10,682	203,475
Unk.	3,774		115		2,192		1,665		1,806		539		2,048		21,793		70		6,258	161,688
<b>Total</b>	<b>137,199</b>	<b>100%</b>	<b>6,727</b>	<b>100%</b>	<b>95,226</b>	<b>100%</b>	<b>40,238</b>	<b>100%</b>	<b>65,961</b>	<b>100%</b>	<b>16,955</b>	<b>100%</b>	<b>92,818</b>	<b>100%</b>	<b>1,131,337</b>	<b>100%</b>	<b>36,748</b>	<b>100%</b>	<b>111,987</b>	<b>4,501,370</b>

1 Column percent of cases with known age

2 Includes only HIV-infected infants

3 Other exposure includes needle-stick, acupuncture, tattoo, etc.

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, HR=high risk, LR=low risk, MTC=mother to child transmission

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care



**Table 1.32 Number and proportion<sup>1</sup> of HIV tests by year of test and health region, Ontario, 1992 to 2006**

Year	Northern		Ottawa		Eastern, other		Toronto		Central East, other		Central West		Southwest		Unk. <sup>2</sup>	Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	No.
1992	9,963	5.5%	22,901	12.7%	10,261	5.7%	72,042	39.8%	25,328	14.0%	22,008	12.2%	18,398	10.2%	37,229	218,130
1993	12,673	5.8%	26,544	12.2%	14,039	6.5%	79,607	36.7%	31,644	14.6%	28,172	13.0%	24,225	11.2%	44,966	261,870
1994	11,893	5.7%	27,101	13.1%	13,527	6.5%	78,311	37.8%	30,788	14.8%	26,758	12.9%	19,057	9.2%	42,990	250,425
1995	11,895	6.0%	26,461	13.3%	16,109	8.1%	71,597	36.0%	27,337	13.7%	24,517	12.3%	21,209	10.7%	53,989	253,114
1996	12,720	6.0%	25,778	12.1%	16,695	7.9%	78,587	37.0%	31,767	15.0%	24,878	11.7%	22,035	10.4%	67,290	279,750
1997	13,952	6.3%	26,356	11.9%	15,304	6.9%	82,271	37.1%	32,957	14.9%	26,242	11.8%	24,539	11.1%	47,220	268,841
1998	17,529	6.2%	28,967	10.2%	20,257	7.2%	107,806	38.1%	45,851	16.2%	32,122	11.4%	30,109	10.7%	4,552	287,193
1999	15,636	5.7%	30,524	11.0%	19,370	7.0%	105,186	38.1%	45,401	16.4%	32,383	11.7%	27,850	10.1%	2,168	278,518
2000	13,909	5.3%	28,730	11.0%	17,812	6.8%	99,371	38.2%	44,107	17.0%	30,831	11.9%	25,370	9.8%	2,147	262,277
2001	14,730	5.3%	30,560	11.0%	17,601	6.3%	106,714	38.5%	48,195	17.4%	33,770	12.2%	25,899	9.3%	2,090	279,559
2002	14,603	4.4%	33,906	10.1%	18,637	5.6%	143,064	42.8%	57,434	17.2%	38,972	11.6%	27,947	8.4%	2,294	336,857
2003	14,598	4.2%	34,253	9.9%	18,370	5.3%	146,892	42.6%	61,334	17.8%	40,469	11.7%	28,665	8.3%	2,203	346,784
2004	15,297	4.1%	35,772	9.7%	20,004	5.4%	155,947	42.1%	68,323	18.4%	43,631	11.8%	31,535	8.5%	2,407	372,916
2005	16,070	4.1%	38,781	10.0%	20,658	5.3%	163,069	41.9%	70,916	18.2%	46,579	12.0%	33,423	8.6%	2,565	392,061
2006	17,448	4.3%	40,648	9.9%	20,638	5.0%	169,175	41.2%	78,074	19.0%	49,548	12.1%	34,664	8.5%	2,880	413,075
<b>Total</b>	<b>212,916</b>	<b>5.1%</b>	<b>457,282</b>	<b>10.9%</b>	<b>259,282</b>	<b>6.2%</b>	<b>1,659,639</b>	<b>39.7%</b>	<b>699,456</b>	<b>16.7%</b>	<b>500,880</b>	<b>12.0%</b>	<b>394,925</b>	<b>9.4%</b>	<b>316,990</b>	<b>4,501,370</b>

1 Row percent of cases with known region of residence

2 Unknown includes out of province

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.33 Number of HIV tests and rate per 1,000 by year of test and health region, Ontario, 1992 to 2006**

	Northern		Ottawa		Eastern, other		Toronto		Central East, other		Central West		Southwest		Total	
Year	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1992	9,963	11.6	22,901	32.1	10,261	13.4	72,042	30.6	25,328	10.5	22,008	10.8	18,398	12.7	218,130	20.6
1993	12,673	14.8	26,544	36.7	14,039	18.1	79,607	33.7	31,644	12.8	28,172	13.7	24,225	16.7	261,870	24.5
1994	11,893	13.9	27,101	37.1	13,527	17.3	78,311	32.7	30,788	12.2	26,758	12.9	19,057	13.0	250,425	23.1
1995	11,895	13.9	26,461	35.9	16,109	20.5	71,597	29.4	27,337	10.6	24,517	11.7	21,200	14.4	253,114	23.1
1996	12,720	14.9	25,778	34.8	16,695	21.1	78,587	32.0	31,767	12.0	24,878	11.8	22,035	14.8	279,750	25.2
1997	13,952	16.4	26,356	35.3	15,304	19.3	82,271	33.1	32,957	12.1	26,242	12.2	24,539	16.4	268,841	23.9
1998	17,529	20.8	28,967	38.3	20,257	25.6	107,806	43.0	45,851	16.4	32,122	14.8	30,109	20.0	287,193	25.3
1999	15,636	18.8	30,524	39.7	19,370	24.4	105,186	41.6	45,401	15.8	32,383	14.7	27,850	18.4	278,518	24.2
2000	13,909	16.9	28,730	36.5	17,812	22.3	99,371	39.0	44,107	14.9	30,831	13.8	25,370	16.6	262,277	22.4
2001	14,730	18.0	30,560	37.9	17,601	21.9	106,714	41.2	48,195	15.7	33,770	14.9	25,899	16.8	279,559	23.5
2002	14,603	17.9	33,906	41.5	18,637	23.0	143,064	54.7	57,434	18.0	38,972	16.9	27,947	18.0	336,857	27.8
2003	14,598	18.0	34,253	41.5	18,370	22.5	146,892	56.2	61,334	18.6	40,469	17.4	28,665	18.3	346,784	28.3
2004	15,297	18.9	35,772	43.1	20,004	24.4	155,947	59.7	68,323	20.1	43,631	18.5	31,535	20.1	372,916	30.1
2005	16,070	19.9	38,781	46.6	20,658	25.1	163,069	62.5	70,916	20.2	46,579	19.5	33,423	21.2	392,061	31.3
2006	17,448	22.2	40,648	50.1	20,638	26.0	169,175	67.6	78,074	23.0	49,548	21.2	34,664	22.6	413,075	34.0
<b>Total</b>	<b>212,916</b>	<b>17.1</b>	<b>457,282</b>	<b>39.3</b>	<b>259,282</b>	<b>21.7</b>	<b>1,659,639</b>	<b>44.1</b>	<b>699,456</b>	<b>16.0</b>	<b>500,880</b>	<b>15.1</b>	<b>394,925</b>	<b>17.4</b>	<b>4,501,370</b>	<b>26.0</b>

Data sources: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

1992-2005 population estimates provided by Health Data and Decision Support Unit, Knowledge Management Branch, Ontario Ministry of Health and Long-Term Care

2006 census population provided by Statistics Canada

**Table 1.34 Number and proportion<sup>1</sup> of HIV tests by year of test and type of identifier, Ontario, 1992 to 2006**

Year	Nominal		Coded		Anonymous		Unknown		Total
	No.	%	No.	%	No.	%	No.	%	No.
1992	154,369	70.8%	42,690	19.6%	9,683	4.4%	11,388	5.2%	218,130
1993	199,198	76.1%	52,276	20.0%	10,379	4.0%	17	0.01%	261,870
1994	192,868	77.0%	48,630	19.4%	8,909	3.6%	18	0.01%	250,425
1995	190,583	75.3%	51,133	20.2%	11,305	4.5%	93	0.04%	253,114
1996	213,305	76.2%	53,417	19.1%	12,854	4.6%	174	0.06%	279,750
1997	208,877	77.7%	48,053	17.9%	11,458	4.3%	453	0.17%	268,841
1998	230,369	80.2%	45,138	15.7%	11,457	4.0%	229	0.08%	287,193
1999	228,486	82.0%	40,002	14.4%	9,942	3.6%	88	0.03%	278,518
2000	217,446	82.9%	35,073	13.4%	9,676	3.7%	82	0.03%	262,277
2001	236,327	84.5%	33,393	11.9%	9,664	3.5%	175	0.06%	279,559
2002	295,566	87.7%	31,289	9.3%	9,830	2.9%	172	0.05%	336,857
2003	308,017	88.8%	29,043	8.4%	9,671	2.8%	53	0.02%	346,784
2004	333,127	89.3%	29,327	7.9%	10,458	2.8%	4	0.0%	372,916
2005	351,083	89.5%	29,814	7.6%	11,156	2.8%	8	0.0%	392,061
2006	379,096	91.8%	25,248	6.1%	8,714	2.1%	17	0.0%	413,075
<b>Total<sup>2</sup></b>	<b>3,738,717</b>	<b>83.1%</b>	<b>594,526</b>	<b>13.2%</b>	<b>155,156</b>	<b>3.4%</b>	<b>12,971</b>	<b>0.29%</b>	<b>4,501,370</b>

<sup>1</sup> Row percent

<sup>2</sup> Total includes unknown sex, of whom 87,785 tested nominally, 60,837 coded, 3,430 anonymously and 3,388 unknown

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 1.35 Number and proportion<sup>1</sup> of HIV tests by sex, year of test and type of identifier, Ontario, 1992 to 2006**

Year	Nominal		Coded		Anonymous		Unknown		Total
Males	No.	%	No.	%	No.	%	No.	%	No.
1992	71,238	70.7%	19,732	19.6%	5,731	5.7%	4,093	4.1%	100,794
1993	89,992	75.6%	23,162	19.4%	5,945	5.0%	5	0.0%	119,104
1994	84,921	76.1%	21,608	19.4%	5,082	4.6%	7	0.01%	111,618
1995	84,759	74.5%	22,565	19.8%	6,412	5.6%	17	0.01%	113,753
1996	90,999	75.5%	22,525	18.7%	7,001	5.8%	53	0.04%	120,578
1997	86,317	76.5%	20,046	17.8%	6,333	5.6%	125	0.11%	112,821
1998	88,356	78.4%	18,038	16.0%	6,262	5.6%	72	0.06%	112,728
1999	88,710	80.4%	15,960	14.5%	5,675	5.1%	33	0.03%	110,378
2000	90,741	82.0%	14,253	12.9%	5,617	5.1%	11	0.01%	110,622
2001	97,915	83.2%	14,107	12.0%	5,602	4.8%	47	0.04%	117,671
2002	125,051	86.4%	13,658	9.4%	5,930	4.1%	64	0.04%	144,703
2003	130,251	87.3%	13,065	8.8%	5,862	3.9%	9	0.01%	149,187
2004	141,756	87.7%	13,648	8.4%	6,259	3.9%	1	0.0%	161,664
2005	152,526	87.9%	14,171	8.2%	6,789	3.9%	2	0.0%	173,488
2006	164,549	90.5%	12,150	6.7%	5,059	2.8%	4	0.0%	181,762
<b>Total</b>	<b>1,588,081</b>	<b>81.8%</b>	<b>258,688</b>	<b>13.3%</b>	<b>89,559</b>	<b>4.6%</b>	<b>4,543</b>	<b>0.23%</b>	<b>1,940,871</b>
<b>Females</b>									
1992	77,697	74.0%	18,913	18.0%	3,910	3.7%	4,450	4.2%	104,970
1993	104,344	78.8%	23,691	17.9%	4,404	3.3%	5	0.0%	132,444
1994	102,081	79.8%	22,074	17.2%	3,819	3.0%	2	0.0%	127,976
1995	102,040	78.1%	23,862	18.3%	4,747	3.6%	31	0.02%	130,680
1996	117,145	78.6%	26,163	17.6%	5,633	3.8%	69	0.05%	149,010
1997	117,829	80.8%	23,004	15.8%	4,863	3.3%	148	0.10%	145,844
1998	135,820	83.6%	21,851	13.4%	4,747	2.9%	107	0.07%	162,525
1999	132,290	85.2%	18,980	12.2%	3,875	2.5%	46	0.03%	155,191
2000	120,592	85.8%	16,155	11.5%	3,755	2.7%	17	0.01%	140,519
2001	131,730	87.5%	15,108	10.0%	3,698	2.5%	56	0.04%	150,592
2002	164,934	90.2%	14,180	7.8%	3,607	2.0%	82	0.04%	182,803
2003	172,654	91.2%	13,142	6.9%	3,484	1.8%	22	0.01%	189,302
2004	185,284	91.6%	13,039	6.4%	3,869	1.9%	0	0.0%	202,192
2005	192,252	91.6%	13,565	6.5%	4,168	2.0%	2	0.0%	209,987
2006	206,160	93.3%	11,274	5.1%	3,588	1.6%	3	0.0%	221,025
<b>Total</b>	<b>2,062,852</b>	<b>85.8%</b>	<b>275,001</b>	<b>11.4%</b>	<b>62,167</b>	<b>2.6%</b>	<b>5,040</b>	<b>0.21%</b>	<b>2,405,060</b>

<sup>1</sup> Row percent

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 2.1 Number of AIDS cases by year of AIDS diagnosis and sex, Ontario, 1981 to 2006**

Year of diagnosis	Males	Females		Total	Total (adjusted <sup>2</sup> )	95% Confidence interval <sup>3</sup>	
	No.	No.	% females <sup>1</sup>	No.	No.	Lower	Upper
1981	1	1	50.0%	2	2	2	2
1982	7	0	0.0%	7	7	7	7
1983	20	0	0.0%	20	20	20	20
1984	58	1	1.7%	59	59	59	59
1985	160	2	1.2%	162	162	162	162
1986	258	4	1.5%	262	262	262	262
1987	398	18	4.3%	416	416	416	416
1988	448	16	3.4%	464	464	464	464
1989	526	19	3.5%	545	546	544	548
1990	610	30	4.7%	640	643	639	646
1991	597	36	5.7%	633	639	634	645
1992	694	40	5.4%	734	743	736	750
1993	697	37	5.0%	734	747	739	756
1994	628	51	7.5%	679	695	686	704
1995	607	52	7.9%	659	678	669	688
1996	393	60	13.2%	453	470	461	479
1997	238	33	12.2%	271	283	276	290
1998	199	44	18.1%	243	256	249	264
1999	179	33	15.6%	212	226	218	234
2000	139	24	14.7%	163	176	169	184
2001	170	37	17.9%	207	228	218	237
2002	141	32	18.5%	173	195	185	205
2003	154	42	21.4%	196	230	217	243
2004	140	38	21.3%	178	224	209	239
2005	143	38	21.0%	181	263	241	284
2006	95	33	25.8%	128	319	276	363
<b>Total</b>	<b>7,700</b>	<b>721</b>	<b>8.6%</b>	<b>8,421</b>	<b>8,954</b>	<b>8,758</b>	<b>9,150</b>

1 Row percent

2 Number of AIDS cases adjusted for reporting delays

3 95% confidence interval on adjusted total

Data source: Ontario Surveillance Program, Public Health Branch, Ontario Ministry of Health and Long-Term Care (cases reported to September 2007)

**Table 2.2 Number and proportion<sup>1</sup> of AIDS cases by exposure category and sex, Ontario, 1981 to 2006**

Exposure category	Males		Females		Total	
	No.	%	No.	%	No.	%
MSM	5,546	72.0%	--	--	5,546	65.9%
MSM-IDU	317	4.1%	--	--	317	3.8%
IDU	286	3.7%	97	13.5%	383	4.5%
HIV-endemic	328	4.3%	208	28.8%	536	6.4%
Heterosexual	476	6.2%	242	33.6%	718	8.5%
Clotting factor	109	1.4%	9	1.2%	118	1.4%
Transfusion	95	1.2%	52	7.2%	147	1.7%
MTC	29	0.38%	32	4.4%	61	0.72%
Occupational	5	0.06%	2	0.28%	7	0.08%
NIR	509	6.6%	79	11.0%	588	7.0%
<b>Total</b>	<b>7,700</b>	<b>100%</b>	<b>721</b>	<b>100%</b>	<b>8,421</b>	<b>100%</b>

1 Column percent

Notes: 1 Assignment to exposure categories based on mutually exclusive hierarchy of risks

2 Modes of transmission were not independently validated

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, MTC=mother to child transmission, NIR=no identified risk, including "other" and "unknown"

Data source: Ontario Surveillance Program, Public Health Branch, Ontario Ministry of Health and Long-Term Care (cases reported to September 2007)



**Table 2.3** Number and proportion<sup>1</sup> of AIDS cases (adjusted<sup>2</sup>) by exposure category and sex, Ontario, 1981 to 2006

Exposure category	Males		Females		Total	
	No.	%	No.	%	No.	%
MSM	5,877	76.3%	--	--	5,877	69.8%
MSM-IDU	345	4.5%	--	--	345	4.1%
IDU	334	4.3%	114	15.8%	448	5.3%
HIV-endemic	350	4.6%	232	32.2%	583	6.9%
Heterosexual	535	6.9%	274	38.0%	809	9.6%
Clotting factor	122	1.6%	9	1.3%	131	1.6%
Transfusion	103	1.3%	57	8.0%	160	1.9%
MTC	29	0.38%	32	4.4%	61	0.72%
Occupational	5	0.07%	2	0.30%	8	0.09%
<b>Total</b>	<b>7,700</b>	<b>100%</b>	<b>721</b>	<b>100%</b>	<b>8,421</b>	<b>100%</b>

1 Column percent

2 Adjusted unknown exposure category based on proportion among the known cases stratified by sex, health region and year of Diagnosis; thus, total may differ slightly due to rounding

Notes: 1 Assignment to exposure categories based on mutually exclusive hierarchy of risks

2 Modes of transmission were not independently validated

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs

Data source: Ontario Surveillance Program, Public Health Branch, Ontario Ministry of Health and Long-Term Care (cases reported to September 2006)

**Table 2.4** Number and proportion<sup>1</sup> of AIDS cases by year of AIDS diagnosis and exposure category, Ontario, 1981 to 2006

Year of AIDS diagnosis	MSM		MSM-IDU		IDU		HIV-endemic		Heterosexual		Clotting factor		Transfusion		MTC		Occupational		NIR		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
1981	1	50.0%	0	0.0%	0	0.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2
1982	6	85.7%	0	0.0%	0	0.0%	0	0.0%	1	14.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	7
1983	14	70.0%	3	15.0%	0	0.0%	1	5.0%	0	0.0%	1	5.0%	0	0.0%	0	0.0%	0	0.0%	1	5.0%	20
1984	48	81.4%	4	6.8%	1	1.7%	1	1.7%	2	3.4%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	5.1%	59
1985	138	85.2%	6	3.7%	1	0.62%	3	1.9%	2	1.2%	2	1.2%	4	2.5%	0	0.0%	0	0.0%	6	3.7%	162
1986	221	84.4%	9	3.4%	1	0.38%	6	2.3%	1	0.38%	2	0.76%	10	3.8%	0	0.0%	0	0.0%	12	4.6%	262
1987	330	79.3%	19	4.6%	8	1.9%	7	1.7%	10	2.4%	5	1.2%	20	4.8%	1	0.24%	0	0.0%	16	3.8%	416
1988	375	80.8%	18	3.9%	7	1.5%	5	1.1%	17	3.7%	6	1.3%	20	4.3%	4	0.86%	0	0.0%	12	2.6%	464
1989	430	78.9%	20	3.7%	16	2.9%	12	2.2%	28	5.1%	4	0.73%	13	2.4%	1	0.18%	1	0.18%	20	3.7%	545
1990	482	75.3%	21	3.3%	18	2.8%	18	2.8%	43	6.7%	16	2.5%	10	1.6%	1	0.16%	1	0.16%	30	4.7%	640
1991	464	73.3%	21	3.3%	21	3.3%	21	3.3%	34	5.4%	18	2.8%	9	1.4%	3	0.47%	0	0.0%	42	6.6%	633
1992	522	71.1%	33	4.5%	32	4.4%	22	3.0%	56	7.6%	16	2.2%	13	1.8%	5	0.68%	0	0.0%	35	4.8%	734
1993	515	70.2%	31	4.2%	25	3.4%	24	3.3%	63	8.6%	12	1.6%	9	1.2%	6	0.82%	1	0.14%	48	6.5%	734
1994	465	68.5%	36	5.3%	31	4.6%	24	3.5%	54	8.0%	9	1.3%	9	1.3%	6	0.88%	0	0.0%	45	6.6%	679
1995	424	64.3%	35	5.3%	38	5.8%	29	4.4%	70	10.6%	11	1.7%	9	1.4%	10	1.5%	0	0.0%	33	5.0%	659
1996	266	58.7%	20	4.4%	31	6.8%	49	10.8%	53	11.7%	4	0.88%	3	0.66%	5	1.1%	1	0.22%	21	4.6%	453
1997	153	56.5%	6	2.2%	18	6.6%	32	11.8%	31	11.4%	6	2.2%	5	1.8%	2	0.74%	1	0.37%	17	6.3%	271
1998	121	49.8%	6	2.5%	21	8.6%	32	13.2%	37	15.2%	3	1.2%	0	0.0%	2	0.82%	1	0.41%	20	8.2%	243
1999	108	50.9%	6	2.8%	17	8.0%	30	14.2%	19	9.0%	0	0.0%	3	1.4%	2	0.94%	0	0.0%	27	12.7%	212
2000	75	46.0%	5	3.1%	16	9.8%	18	11.0%	29	17.8%	2	1.2%	3	1.8%	2	1.2%	0	0.0%	13	8.0%	163
2001	83	40.1%	5	2.4%	18	8.7%	38	18.4%	36	17.4%	1	0.48%	2	0.97%	1	0.48%	1	0.48%	22	10.6%	207
2002	63	36.4%	2	1.2%	15	8.7%	35	20.2%	26	15.0%	0	0.0%	1	0.58%	1	0.58%	0	0.0%	30	17.3%	173
2003	71	36.2%	4	2.0%	17	8.7%	36	18.4%	37	18.9%	0	0.0%	1	0.51%	1	0.51%	0	0.0%	29	14.8%	196
2004	63	35.4%	5	2.8%	15	8.4%	34	19.1%	28	15.7%	0	0.0%	1	0.56%	2	1.1%	0	0.0%	30	16.9%	178
2005	60	33.1%	2	1.1%	10	5.5%	32	17.7%	26	14.4%	0	0.0%	0	0.0%	4	2.2%	0	0.0%	47	26.0%	181
2006	48	37.5%	0	0.0%	6	4.7%	26	20.3%	15	11.7%	0	0.0%	2	1.6%	2	1.6%	0	0.0%	29	22.7%	128
<b>Total</b>	<b>5,546</b>	<b>65.9%</b>	<b>317</b>	<b>3.8%</b>	<b>383</b>	<b>4.5%</b>	<b>536</b>	<b>6.4%</b>	<b>718</b>	<b>8.5%</b>	<b>118</b>	<b>1.4%</b>	<b>147</b>	<b>1.7%</b>	<b>61</b>	<b>0.72%</b>	<b>7</b>	<b>0.08%</b>	<b>588</b>	<b>7.0%</b>	<b>8,421</b>

<sup>1</sup> Row percent

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, MTC=mother to child transmission, NIR=no identified risk, including "other" and "unknown"

Data source: Ontario Surveillance Program, Public Health Branch, Ontario Ministry of Health and Long-Term Care (cases reported to September 2007)

**Table 2.4a Number and proportion<sup>1</sup> of AIDS cases among males by year of AIDS diagnosis and exposure category, Ontario, 1981 to 2006**

Year of AIDS diagnosis	MSM		MSM-IDU		IDU		HIV-endemic		Heterosexual		Clotting factor		Transfusion		MTC		Occupational		NIR		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1981	1	100%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
1982	6	85.7%	0	0.0%	0	0.0%	0	0.0%	1	14.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
1983	14	70.0%	3	15.0%	0	0.0%	1	5.0%	0	0.0%	1	5.0%	0	0.0%	0	0.0%	0	0.0%	1	5.0%	1	5.0%
1984	48	82.8%	4	6.9%	0	0.0%	1	1.7%	2	3.4%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	5.2%	3	5.2%
1985	138	86.3%	6	3.8%	1	0.63%	2	1.3%	2	1.3%	2	1.3%	3	1.9%	0	0.0%	0	0.0%	6	3.8%	6	3.8%
1986	221	85.7%	9	3.5%	1	0.39%	5	1.9%	1	0.39%	1	0.39%	9	3.5%	0	0.0%	0	0.0%	11	4.3%	11	4.3%
1987	330	82.9%	19	4.8%	7	1.8%	4	1.0%	7	1.8%	4	1.0%	12	3.0%	0	0.0%	0	0.0%	15	3.8%	15	3.8%
1988	375	83.7%	18	4.0%	5	1.1%	4	0.89%	13	2.9%	6	1.3%	13	2.9%	3	0.67%	0	0.0%	11	2.5%	11	2.5%
1989	430	81.7%	20	3.8%	13	2.5%	9	1.7%	22	4.2%	3	0.57%	8	1.5%	0	0.0%	1	0.19%	20	3.8%	20	3.8%
1990	482	79.0%	21	3.4%	14	2.3%	11	1.8%	33	5.4%	16	2.6%	5	0.82%	0	0.0%	0	0.0%	28	4.6%	28	4.6%
1991	464	77.7%	21	3.5%	17	2.8%	13	2.2%	20	3.4%	17	2.8%	4	0.67%	1	0.17%	0	0.0%	40	6.7%	40	6.7%
1992	522	75.2%	33	4.8%	23	3.3%	14	2.0%	42	6.1%	15	2.2%	10	1.4%	3	0.43%	0	0.0%	32	4.6%	32	4.6%
1993	515	73.9%	31	4.4%	21	3.0%	18	2.6%	45	6.5%	12	1.7%	5	0.72%	3	0.43%	1	0.14%	46	6.6%	46	6.6%
1994	465	74.0%	36	5.7%	24	3.8%	14	2.2%	30	4.8%	8	1.3%	8	1.3%	2	0.32%	0	0.0%	41	6.5%	41	6.5%
1995	424	69.9%	35	5.8%	29	4.8%	21	3.5%	47	7.7%	10	1.6%	4	0.66%	4	0.66%	0	0.0%	33	5.4%	33	5.4%
1996	266	67.7%	20	5.1%	23	5.9%	26	6.6%	28	7.1%	4	1.0%	2	0.51%	4	1.0%	1	0.25%	19	4.8%	19	4.8%
1997	153	64.3%	6	2.5%	15	6.3%	20	8.4%	19	8.0%	4	1.7%	3	1.3%	2	0.84%	1	0.42%	15	6.3%	15	6.3%
1998	121	60.8%	6	3.0%	11	5.5%	21	10.6%	20	10.1%	3	1.5%	0	0.0%	0	0.0%	0	0.0%	17	8.5%	17	8.5%
1999	108	60.3%	6	3.4%	11	6.1%	15	8.4%	14	7.8%	0	0.0%	1	0.56%	1	0.56%	0	0.0%	23	12.8%	23	12.8%
2000	75	54.0%	5	3.6%	12	8.6%	14	10.1%	19	13.7%	2	1.4%	3	2.2%	0	0.0%	0	0.0%	9	6.5%	9	6.5%
2001	83	48.8%	5	2.9%	17	10.0%	18	10.6%	27	15.9%	1	0.59%	1	0.59%	0	0.0%	1	0.59%	17	10.0%	17	10.0%
2002	63	44.7%	2	1.4%	11	7.8%	19	13.5%	21	14.9%	0	0.0%	0	0.0%	1	0.71%	0	0.0%	24	17.0%	24	17.0%
2003	71	46.1%	4	2.6%	12	7.8%	21	13.6%	25	16.2%	0	0.0%	1	0.65%	0	0.0%	0	0.0%	20	13.0%	20	13.0%
2004	63	45.0%	5	3.6%	9	6.4%	21	15.0%	15	10.7%	0	0.0%	1	0.71%	1	0.71%	0	0.0%	25	17.9%	25	17.9%
2005	60	42.0%	2	1.4%	6	4.2%	20	14.0%	15	10.5%	0	0.0%	0	0.0%	3	2.1%	0	0.0%	37	25.9%	37	25.9%
2006	48	50.5%	0	0.0%	4	4.2%	16	16.8%	8	8.4%	0	0.0%	2	2.1%	1	1.1%	0	0.0%	16	16.8%	16	16.8%
<b>Total</b>	<b>5,546</b>	<b>72.0%</b>	<b>317</b>	<b>4.1%</b>	<b>286</b>	<b>3.7%</b>	<b>328</b>	<b>4.3%</b>	<b>476</b>	<b>6.2%</b>	<b>109</b>	<b>1.4%</b>	<b>95</b>	<b>1.2%</b>	<b>29</b>	<b>0.38%</b>	<b>5</b>	<b>0.06%</b>	<b>509</b>	<b>6.6%</b>	<b>7,700</b>	

<sup>1</sup> Row percent

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, MTC=mother to child transmission, NIR=no identified risk, including "other" and "unknown"

Data source: Ontario Surveillance Program, Public Health Branch, Ontario Ministry of Health and Long-Term Care (cases reported to September 2007)

**Table 2.4b** Number and proportion<sup>1</sup> of AIDS cases among females by year of AIDS diagnosis and exposure category, Ontario, 1981 to 2006

Year of AIDS diagnosis	IDU		HIV-endemic		Heterosexual		Clotting factor		Transfusion		MTC		Occupational		NIR		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
1981	0	0.0%	1	100%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1
1982	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
1983	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
1984	1	100%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1
1985	0	0.0%	1	50.0%	0	0.0%	0	0.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	2
1986	0	0.0%	1	25.0%	0	0.0%	1	25.0%	1	25.0%	0	0.0%	0	0.0%	1	25.0%	4
1987	1	5.6%	3	16.7%	3	16.7%	1	5.6%	8	44.4%	1	5.6%	0	0.0%	1	5.6%	18
1988	2	12.5%	1	6.3%	4	25.0%	0	0.0%	7	43.8%	1	6.3%	0	0.0%	1	6.3%	16
1989	3	15.8%	3	15.8%	6	31.6%	1	5.3%	5	26.3%	1	5.3%	0	0.0%	0	0.0%	19
1990	4	13.3%	7	23.3%	10	33.3%	0	0.0%	5	16.7%	1	3.3%	1	3.3%	2	6.7%	30
1991	4	11.1%	8	22.2%	14	38.9%	1	2.8%	5	13.9%	2	5.6%	0	0.0%	2	5.6%	36
1992	9	22.5%	8	20.0%	14	35.0%	1	2.5%	3	7.5%	2	5.0%	0	0.0%	3	7.5%	40
1993	4	10.8%	6	16.2%	18	48.6%	0	0.0%	4	10.8%	3	8.1%	0	0.0%	2	5.4%	37
1994	7	13.7%	10	19.6%	24	47.1%	1	2.0%	1	2.0%	4	7.8%	0	0.0%	4	7.8%	51
1995	9	17.3%	8	15.4%	23	44.2%	1	1.9%	5	9.6%	6	11.5%	0	0.0%	0	0.0%	52
1996	8	13.3%	23	38.3%	25	41.7%	0	0.0%	1	1.7%	1	1.7%	0	0.0%	2	3.3%	60
1997	3	9.1%	12	36.4%	12	36.4%	2	6.1%	2	6.1%	0	0.0%	0	0.0%	2	6.1%	33
1998	10	22.7%	11	25.0%	17	38.6%	0	0.0%	0	0.0%	2	4.5%	1	2.3%	3	6.8%	44
1999	6	18.2%	15	45.5%	5	15.2%	0	0.0%	2	6.1%	1	3.0%	0	0.0%	4	12.1%	33
2000	4	16.7%	4	16.7%	10	41.7%	0	0.0%	0	0.0%	2	8.3%	0	0.0%	4	16.7%	24
2001	1	2.7%	20	54.1%	9	24.3%	0	0.0%	1	2.7%	1	2.7%	0	0.0%	5	13.5%	37
2002	4	12.5%	16	50.0%	5	15.6%	0	0.0%	1	3.1%	0	0.0%	0	0.0%	6	18.8%	32
2003	5	11.9%	15	35.7%	12	28.6%	0	0.0%	0	0.0%	1	2.4%	0	0.0%	9	21.4%	42
2004	6	15.8%	13	34.2%	13	34.2%	0	0.0%	0	0.0%	1	2.6%	0	0.0%	5	13.2%	38
2005	4	10.5%	12	31.6%	11	28.9%	0	0.0%	0	0.0%	1	2.6%	0	0.0%	10	26.3%	38
2006	2	6.1%	10	30.3%	7	21.2%	0	0.0%	0	0.0%	1	3.0%	0	0.0%	13	39.4%	33
<b>Total</b>	<b>97</b>	<b>13.5%</b>	<b>208</b>	<b>28.8%</b>	<b>242</b>	<b>33.6%</b>	<b>9</b>	<b>1.2%</b>	<b>52</b>	<b>7.2%</b>	<b>32</b>	<b>4.4%</b>	<b>2</b>	<b>0.28%</b>	<b>79</b>	<b>11.0%</b>	<b>721</b>

<sup>1</sup> Row percent

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, MTC=mother to child transmission, NIR=no identified risk, including "other" and "unknown"

Data source: Ontario Surveillance Program, Public Health Branch, Ontario Ministry of Health and Long-Term Care (cases reported to September 2007)

**Table 2.5** Number and proportion<sup>1</sup> of AIDS cases (adjusted<sup>2</sup>) by year of AIDS diagnosis and exposure category, Ontario, 1981 to 2006

Year of AIDS diagnosis	MSM		MSM-IDU		IDU		HIV-endemic		Heterosexual		Clotting factor		Transfusion		MTC		Occupational		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
1981	1	50.0%	0	0.0%	0	0.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2
1982	6	85.7%	0	0.0%	0	0.0%	0	0.0%	1	14.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	7
1983	15	75.0%	3	15.0%	0	0.0%	1	5.0%	0	0.0%	1	5.0%	0	0.0%	0	0.0%	0	0.0%	20
1984	51	86.2%	4	6.9%	1	1.7%	1	1.7%	2	3.5%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	59
1985	143	88.3%	6	3.9%	1	0.70%	3	1.9%	2	1.3%	2	1.3%	4	2.6%	0	0.0%	0	0.0%	162
1986	230	88.0%	9	3.6%	2	0.58%	6	2.4%	2	0.62%	2	0.81%	10	4.0%	0	0.0%	0	0.0%	262
1987	342	82.2%	20	4.7%	9	2.3%	7	1.7%	11	2.5%	5	1.3%	21	5.0%	1	0.24%	0	0.0%	416
1988	384	82.7%	19	4.0%	8	1.6%	5	1.1%	18	3.8%	6	1.4%	21	4.5%	4	0.86%	0	0.0%	464
1989	447	82.0%	21	3.8%	17	3.0%	12	2.3%	29	5.2%	4	0.79%	14	2.5%	1	0.18%	1	0.18%	545
1990	504	78.7%	22	3.5%	20	3.1%	19	2.9%	46	7.2%	17	2.6%	11	1.7%	1	0.16%	1	0.16%	640
1991	493	78.0%	23	3.7%	24	3.7%	22	3.5%	38	6.0%	20	3.1%	10	1.6%	3	0.47%	0	0.0%	633
1992	546	74.4%	35	4.7%	34	4.6%	24	3.3%	59	8.1%	17	2.4%	14	1.9%	5	0.68%	0	0.0%	734
1993	550	74.9%	33	4.6%	28	3.8%	25	3.4%	67	9.2%	14	1.9%	10	1.4%	6	0.82%	1	0.14%	734
1994	496	73.1%	39	5.7%	33	4.9%	25	3.7%	59	8.7%	11	1.6%	10	1.5%	6	0.88%	0	0.0%	679
1995	446	67.6%	37	5.7%	41	6.2%	31	4.6%	73	11.1%	12	1.8%	9	1.4%	10	1.5%	0	0.0%	659
1996	278	61.4%	21	4.6%	33	7.2%	51	11.2%	57	12.5%	5	1.0%	3	0.76%	5	1.1%	1	0.24%	453
1997	163	60.3%	7	2.5%	20	7.2%	33	12.2%	33	12.3%	6	2.3%	5	2.0%	2	0.74%	1	0.38%	271
1998	132	54.4%	7	2.9%	23	9.4%	34	13.8%	40	16.6%	3	1.4%	0	0.19%	2	0.82%	1	0.42%	243
1999	123	58.1%	7	3.3%	20	9.3%	33	15.3%	23	11.0%	1	0.28%	3	1.6%	2	0.94%	0	0.0%	212
2000	79	48.8%	5	3.3%	18	11.1%	21	12.8%	32	19.7%	2	1.2%	3	1.9%	2	1.2%	0	0.0%	163
2001	91	43.7%	6	2.9%	21	10.3%	42	20.2%	42	20.2%	1	0.57%	2	1.2%	1	0.48%	1	0.49%	207
2002	74	42.5%	3	1.9%	21	12.0%	40	23.0%	33	19.1%	0	0.12%	1	0.80%	1	0.58%	0	0.0%	173
2003	78	40.0%	5	2.7%	22	11.4%	41	20.8%	46	23.6%	0	0.21%	1	0.74%	1	0.51%	0	0.0%	196
2004	74	41.5%	6	3.5%	21	11.9%	38	21.5%	35	19.6%	0	0.07%	1	0.83%	2	1.1%	0	0.0%	178
2005	76	41.8%	4	2.3%	20	10.9%	38	20.9%	38	21.2%	1	0.30%	1	0.43%	4	2.2%	0	0.0%	181
2006	55	42.7%	1	0.83%	14	10.6%	31	24.4%	22	17.4%	0	0.17%	3	2.3%	2	1.6%	0	0.05%	128
<b>Total</b>	<b>5,877</b>	<b>69.8%</b>	<b>345</b>	<b>4.1%</b>	<b>448</b>	<b>5.3%</b>	<b>583</b>	<b>6.9%</b>	<b>809</b>	<b>9.6%</b>	<b>131</b>	<b>1.6%</b>	<b>160</b>	<b>1.9%</b>	<b>61</b>	<b>0.72%</b>	<b>8</b>	<b>0.09%</b>	<b>8,421</b>

1 Row percent

2 Adjusted unknown exposure category based on proportion among the known cases stratified by sex, health region and year of diagnosis; thus, totals may differ due to rounding

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, MTC=mother to child transmission

Data source: Ontario Surveillance Program, Public Health Branch, Ontario Ministry of Health and Long-Term Care (cases reported to September 2007)

**Table 2.5a Number and proportion<sup>1</sup> of AIDS cases (adjusted<sup>2</sup>) among males by year of AIDS diagnosis and exposure category, Ontario, 1981 to 2006**

Year of AIDS diagnosis	MSM		MSM-IDU		IDU		HIV-endemic		Heterosexual		Clotting factor		Transfusion		MTC		Occupational		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
1981	1	100%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1
1982	6	85.7%	0	0.0%	0	0.0%	0	0.0%	1	14.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	7
1983	15	75.0%	3	15.0%	0	0.0%	1	5.0%	0	0.0%	1	5.0%	0	0.0%	0	0.0%	0	0.0%	20
1984	51	87.7%	4	7.0%	0	0.0%	1	1.8%	2	3.5%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	58
1985	143	89.4%	6	3.9%	1	0.71%	2	1.3%	2	1.4%	2	1.3%	3	2.0%	0	0.0%	0	0.0%	160
1986	230	89.3%	9	3.7%	1	0.46%	5	2.0%	1	0.49%	1	0.44%	9	3.6%	0	0.0%	0	0.0%	258
1987	342	86.0%	20	4.9%	7	1.9%	4	1.1%	8	1.9%	4	1.1%	13	3.2%	0	0.0%	0	0.0%	398
1988	384	85.6%	19	4.1%	5	1.2%	4	0.92%	14	3.0%	6	1.4%	13	3.0%	3	0.67%	0	0.0%	448
1989	447	85.0%	21	4.0%	14	2.6%	9	1.8%	23	4.3%	3	0.63%	9	1.6%	0	0.0%	1	0.19%	526
1990	504	82.6%	22	3.7%	15	2.5%	12	1.9%	35	5.7%	17	2.8%	5	0.89%	0	0.0%	0	0.0%	610
1991	493	82.7%	23	3.9%	19	3.2%	14	2.3%	23	3.9%	19	3.1%	5	0.80%	1	0.17%	0	0.0%	597
1992	546	78.7%	35	5.0%	24	3.5%	15	2.1%	44	6.4%	16	2.3%	11	1.5%	3	0.43%	0	0.0%	694
1993	550	78.9%	33	4.8%	23	3.3%	19	2.7%	48	7.0%	14	2.0%	6	0.83%	3	0.43%	1	0.14%	697
1994	496	79.0%	39	6.1%	26	4.1%	15	2.3%	33	5.2%	10	1.5%	9	1.4%	2	0.32%	0	0.0%	628
1995	446	73.4%	37	6.2%	32	5.3%	23	3.7%	50	8.3%	11	1.8%	4	0.72%	4	0.66%	0	0.0%	607
1996	278	70.8%	21	5.3%	24	6.2%	27	6.9%	31	7.8%	5	1.2%	2	0.58%	4	1.0%	1	0.27%	393
1997	163	68.6%	7	2.9%	16	6.8%	21	8.8%	20	8.6%	4	1.8%	3	1.3%	2	0.84%	1	0.43%	238
1998	132	66.4%	7	3.5%	13	6.3%	22	11.0%	22	11.0%	3	1.7%	0	0.09%	0	0.0%	0	0.01%	199
1999	123	68.8%	7	4.0%	13	7.2%	16	9.1%	17	9.4%	1	0.29%	1	0.67%	1	0.56%	0	0.0%	179
2000	79	57.2%	5	3.9%	14	9.8%	15	10.9%	20	14.6%	2	1.4%	3	2.2%	0	0.0%	0	0.0%	139
2001	91	53.3%	6	3.5%	20	11.7%	20	11.5%	31	18.1%	1	0.69%	1	0.67%	0	0.0%	1	0.60%	170
2002	74	52.2%	3	2.3%	16	11.2%	21	15.1%	26	18.2%	0	0.14%	0	0.10%	1	0.71%	0	0.0%	141
2003	78	50.9%	5	3.5%	16	10.2%	23	14.8%	30	19.6%	0	0.27%	1	0.70%	0	0.0%	0	0.0%	154
2004	74	52.7%	6	4.5%	15	10.4%	23	16.5%	20	14.2%	0	0.09%	1	0.85%	1	0.71%	0	0.0%	140
2005	76	52.8%	4	2.9%	13	8.8%	23	16.3%	23	16.4%	1	0.38%	0	0.20%	3	2.1%	0	0.0%	143
2006	55	57.5%	1	1.1%	8	8.4%	17	17.7%	11	11.7%	0	0.19%	2	2.2%	1	1.1%	0	0.0%	95
<b>Total</b>	<b>5,877</b>	<b>76.3%</b>	<b>345</b>	<b>4.5%</b>	<b>334</b>	<b>4.3%</b>	<b>350</b>	<b>4.6%</b>	<b>535</b>	<b>6.9%</b>	<b>122</b>	<b>1.6%</b>	<b>103</b>	<b>1.3%</b>	<b>29</b>	<b>0.38%</b>	<b>5</b>	<b>0.07%</b>	<b>7,700</b>

1 Row percent

2 Adjusted unknown exposure category based on proportion among the known cases stratified by sex, health region and year of diagnosis; thus, totals may differ due to rounding

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, MTC=mother to child transmission

Data source: Ontario Surveillance Program, Public Health Branch, Ontario Ministry of Health and Long-Term Care (cases reported to September 2007)



**Table 2.5b Number and proportion<sup>1</sup> of AIDS cases (adjusted<sup>2</sup>) among females by year of AIDS diagnosis and exposure category, Ontario, 1981 to 2006**

Year of AIDS diagnosis	IDU		HIV-endemic		Heterosexual		Clotting factor		Transfusion		MTC		Occupational		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
1981	0	0.0%	1	100%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1
1982	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
1983	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
1984	1	100%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1
1985	0	0.0%	1	50.0%	0	0.0%	0	0.0%	1	50.0%	0	0.0%	0	0.0%	2
1986	0	8.7%	1	29.3%	0	8.7%	1	25.0%	1	28.3%	0	0.0%	0	0.0%	4
1987	2	11.1%	3	16.7%	3	16.7%	1	5.6%	8	44.4%	1	5.6%	0	0.0%	18
1988	2	13.5%	1	7.3%	4	26.0%	0	0.0%	8	46.9%	1	6.3%	0	0.0%	16
1989	3	15.8%	3	15.8%	6	31.6%	1	5.3%	5	26.3%	1	5.3%	0	0.0%	19
1990	4	14.9%	7	24.1%	11	37.0%	0	0.0%	5	17.3%	1	3.3%	1	3.3%	30
1991	4	12.0%	8	23.3%	15	41.7%	1	3.0%	5	14.5%	2	5.6%	0	0.0%	36
1992	9	23.4%	9	23.4%	15	37.4%	1	2.6%	3	8.1%	2	5.0%	0	0.16%	40
1993	5	12.6%	6	17.2%	19	50.7%	0	0.0%	4	11.4%	3	8.1%	0	0.0%	37
1994	8	15.1%	10	20.4%	26	51.9%	1	2.0%	1	2.8%	4	7.8%	0	0.0%	51
1995	9	17.3%	8	15.4%	23	44.2%	1	1.9%	5	9.6%	6	11.5%	0	0.0%	52
1996	8	13.7%	24	39.4%	26	43.2%	0	0.08%	1	1.9%	1	1.7%	0	0.0%	60
1997	4	10.7%	12	37.3%	13	39.1%	2	6.2%	2	6.7%	0	0.0%	0	0.0%	33
1998	10	23.6%	12	26.7%	19	42.1%	0	0.11%	0	0.65%	2	4.5%	1	2.3%	44
1999	7	20.8%	16	49.2%	7	19.9%	0	0.18%	2	6.9%	1	3.0%	0	0.0%	33
2000	4	18.3%	6	23.7%	12	49.2%	0	0.0%	0	0.42%	2	8.3%	0	0.0%	24
2001	1	4.0%	22	60.1%	11	29.7%	0	0.0%	1	3.5%	1	2.7%	0	0.0%	37
2002	5	15.7%	18	57.5%	7	22.8%	0	0.05%	1	3.9%	0	0.0%	0	0.10%	32
2003	7	15.5%	18	43.0%	16	38.2%	0	0.0%	0	0.86%	1	2.4%	0	0.0%	42
2004	7	17.3%	15	39.9%	15	39.4%	0	0.0%	0	0.76%	1	2.6%	0	0.0%	38
2005	7	18.6%	15	38.3%	15	39.1%	0	0.0%	0	1.3%	1	2.6%	0	0.0%	38
2006	6	17.1%	14	43.5%	11	33.6%	0	0.10%	1	2.5%	1	3.0%	0	0.20%	33
<b>Total</b>	<b>114</b>	<b>15.8%</b>	<b>232</b>	<b>32.2%</b>	<b>274</b>	<b>38.0%</b>	<b>9</b>	<b>1.3%</b>	<b>57</b>	<b>8.0%</b>	<b>32</b>	<b>4.4%</b>	<b>2</b>	<b>0.30%</b>	<b>721</b>

1 Row percent

2 Adjusted unknown exposure category based on proportion among the known cases stratified by sex, health region and year of diagnosis; thus, totals may differ due to rounding

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, MTC=mother to child transmission

Data source: Ontario Surveillance Program, Public Health Branch, Ontario Ministry of Health and Long-Term Care (cases reported to September 2007)

**Table 2.6 Number of AIDS cases and cumulative incidence rate (per 100,000) by age at diagnosis and sex, Ontario, 1981 to 2006**

Age group (years)	Males		Females		Total	
	Number	Rate	Number	Rate	Number	Rate
<15	49	4.2	44	4.0	93	4.1
15-19	18	4.9	8	2.3	26	3.6
20-24	221	58.6	36	9.8	257	34.5
25-29	919	224.0	120	29.0	1,039	126.2
30-34	1,640	329.0	162	32.8	1,802	181.7
35-39	1,663	344.0	110	22.5	1,773	182.5
40-44	1,350	317.7	97	22.1	1,447	167.4
45-49	860	219.9	49	12.3	909	115.1
50-54	464	153.8	25	8.2	489	80.4
55-59	262	106.1	27	10.6	289	57.7
60-64	143	63.6	14	6.0	157	34.2
65-69	67	32.7	14	6.2	81	18.8
70+	39	10.6	15	2.7	54	5.8
Unknown	5		0		5	
<b>Total</b>	<b>7,700</b>	<b>141.0</b>	<b>721</b>	<b>12.8</b>	<b>8,421</b>	<b>76.0</b>

Data sources: Ontario AIDS Surveillance Program, Public Health Branch, Ministry of Health and Long-Term Care  
(cases reported to September 2007)  
Statistics Canada (1996 census)

**Table 2.7 Number of AIDS cases and incidence rate per 100,000 by age at AIDS diagnosis and sex, Ontario, 2006**

Age group (years)	Males		Females		Total	
	Number	Rate	Number	Rate	Number	Rate
<15	1	0.09	1	0.09	2	0.09
15-19	0	0.00	1	0.25	1	0.12
20-24	4	1.00	2	0.50	6	0.75
25-29	9	2.50	1	0.26	10	1.34
30-34	9	2.36	10	2.44	19	2.40
35-39	8	1.86	7	1.54	15	1.70
40-44	25	4.93	3	0.57	28	2.71
45-49	16	3.29	2	0.40	18	1.81
50-54	11	2.60	1	0.22	12	1.38
55-59	7	1.85	3	0.76	10	1.29
60-64	2	0.71	0	0.00	2	0.34
65-69	2	0.90	0	0.00	2	0.43
70+	1	0.20	2	0.29	3	0.25
<b>Total</b>	<b>95</b>	<b>1.60</b>	<b>33</b>	<b>0.53</b>	<b>128</b>	<b>1.05</b>

Data sources: Ontario AIDS Surveillance Program, Public Health Branch, Ministry of Health and Long-Term Care  
(cases reported to September 2007)  
Statistics Canada (2006 census)

**Table 2.8** Number and proportion<sup>1</sup> of AIDS cases by age at diagnosis and exposure category, Ontario, 1981 to 2006

Age group (years)	MSM		MSM-IDU		IDU		HIV-endemic		Heterosexual		Clotting factor		Transfusion		MTC		Occupational		NIR		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
<15	0	0.0%	0	0.0%	0	0.0%	4	0.75%	0	0.0%	5	4.2%	11	7.5%	61	100%	0	0.0%	12	2.1%	93	1.1%
15-19	7	0.13%	1	0.32%	1	0.26%	3	0.56%	1	0.14%	5	4.2%	4	2.7%	0	0.0%	0	0.0%	4	0.68%	26	0.31%
20-24	133	2.4%	16	5.1%	18	4.7%	19	3.5%	24	3.3%	14	11.9%	7	4.8%	0	0.0%	0	0.0%	26	4.4%	257	3.1%
25-29	641	11.6%	70	22.2%	63	16.4%	78	14.6%	90	12.5%	17	14.4%	9	6.1%	0	0.0%	0	0.0%	71	12.1%	1,039	12.3%
30-34	1,207	21.8%	88	27.8%	103	26.9%	133	24.8%	134	18.7%	13	11.0%	16	10.9%	0	0.0%	0	0.0%	108	18.5%	1,802	21.4%
35-39	1,265	22.8%	65	20.6%	86	22.5%	116	21.6%	113	15.7%	19	16.1%	11	7.5%	0	0.0%	2	28.6%	96	16.4%	1,773	21.1%
40-44	1,006	18.1%	44	13.9%	63	16.4%	83	15.5%	126	17.5%	8	6.8%	14	9.5%	0	0.0%	1	14.3%	102	17.4%	1,447	17.2%
45-49	639	11.5%	18	5.7%	31	8.1%	49	9.1%	85	11.8%	15	12.7%	8	5.4%	0	0.0%	1	14.3%	63	10.8%	909	10.8%
50-54	328	5.9%	8	2.5%	13	3.4%	25	4.7%	55	7.7%	7	5.9%	9	6.1%	0	0.0%	1	14.3%	43	7.4%	489	5.8%
55-59	181	3.3%	4	1.3%	3	0.78%	13	2.4%	42	5.8%	5	4.2%	14	9.5%	0	0.0%	1	14.3%	26	4.4%	289	3.4%
60-64	93	1.7%	1	0.32%	2	0.52%	3	0.56%	25	3.5%	4	3.4%	14	9.5%	0	0.0%	0	0.0%	15	2.6%	157	1.9%
65-69	32	0.58%	1	0.32%	0	0.0%	7	1.3%	12	1.7%	1	0.85%	18	12.2%	0	0.0%	1	14.3%	9	1.5%	81	0.96%
70+	13	0.23%	0	0.0%	0	0.0%	3	0.56%	11	1.5%	5	4.2%	12	8.2%	0	0.0%	0	0.0%	10	1.7%	54	0.64%
Unknown	1		1		0		0		0		0		0		0		0		3		5	
<b>Total</b>	<b>5,546</b>	<b>100%</b>	<b>317</b>	<b>100%</b>	<b>383</b>	<b>100%</b>	<b>536</b>	<b>100%</b>	<b>718</b>	<b>100%</b>	<b>118</b>	<b>100%</b>	<b>147</b>	<b>100%</b>	<b>61</b>	<b>100%</b>	<b>7</b>	<b>100%</b>	<b>588</b>	<b>100%</b>	<b>8,421</b>	<b>100%</b>

<sup>1</sup> Column percent of case with known age

Notes: 1 Assignment to exposure categories based on mutually exclusive hierarchy of risks

2 Modes of transmission were not independently validated

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, MTC=mother to child transmission,

NIR=no identified risk, including "other" and "unknown"

Data source: Ontario AIDS Surveillance Program, Public Health Branch, Ministry of Health and Long-Term Care (cases reported to September 2007)

**Table 2.9 Mean age (years) at AIDS diagnosis among males by year of AIDS diagnosis and exposure category, Ontario, 1981 to 2006**

Year	MSM		MSM-IDU		IDU		HIV-endemic		Hetero		Clotting factor		Transfusion		MTC		Occupational		NIR		Total
	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean	
1981	1	42.3	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	1
1982	6	35.0	0	--	0	--	0	--	1	34.2	0	--	0	--	0	--	0	--	0	--	7
1983	14	37.1	3	34.6	0	--	1	53.2	0	--	1	24.2	0	--	0	--	0	--	1	28.8	20
1984	48	39.9	4	30.7	0	--	1	34.2	2	34.2	0	--	0	--	0	--	0	--	3	39.8	58
1985	138	37.3	6	29.4	1	30.0	2	33.2	2	50.2	2	36.3	3	60.3	0	--	0	--	6	37.7	160
1986	221	37.9	9	30.5	1	36.0	5	34.9	1	38.3	1	23.6	9	44.1	0	--	0	--	11	33.4	258
1987	330	38.5	19	36.1	7	39.6	4	39.6	7	44.7	4	37.1	12	60.8	0	--	0	--	15	40.2	398
1988	375	37.8	18	32.2	5	31.5	4	39.3	13	41.4	6	37.4	13	47.9	3	1.6	0	--	11	36.6	448
1989	430	37.3	20	34.6	13	31.1	9	37.7	22	41.9	3	44.0	8	44.7	0	--	1	41.5	20	33.9	526
1990	482	38.6	21	33.8	14	29.0	11	32.7	33	38.3	16	33.2	5	34.4	0	--	0	--	28	37.6	610
1991	464	39.0	21	34.4	17	32.3	13	37.6	20	43.1	17	44.1	4	42.0	1	0.4	0	--	39	38.2	596
1992	522	38.4	33	36.5	23	37.0	14	36.9	42	41.4	15	32.5	10	40.0	3	0.7	0	--	31	40.0	693
1993	515	39.5	31	33.8	21	33.4	18	38.5	45	42.3	12	42.5	5	35.0	3	0.5	1	51.4	46	37.0	697
1994	465	39.5	36	35.0	24	35.6	14	36.6	30	36.8	8	29.5	8	43.0	2	4.5	0	--	41	40.2	628
1995	424	39.5	35	36.0	29	36.0	21	43.0	47	45.0	10	36.6	4	48.8	4	2.5	0	--	33	37.6	607
1996	266	39.8	19	37.0	23	36.6	26	36.0	28	41.7	4	34.9	2	57.5	4	3.3	1	37.5	19	41.2	392
1997	153	41.2	6	31.4	15	40.0	20	38.4	19	44.0	4	33.6	3	53.5	2	0.4	1	59.4	15	45.0	238
1998	121	40.8	6	36.1	11	35.1	21	37.9	20	41.5	3	46.7	0	--	0	--	0	--	17	44.3	199
1999	108	40.9	6	42.7	11	36.2	15	42.5	14	43.5	0	--	1	63.1	1	1.6	0	--	23	41.0	179
2000	74	42.1	5	41.7	12	41.4	14	41.7	19	43.2	2	46.9	3	43.5	0	--	0	--	9	34.7	138
2001	83	43.2	5	37.0	17	44.3	18	40.5	27	43.1	1	23.1	1	33.3	0	--	1	38.7	17	41.7	170
2002	63	39.7	2	30.5	11	40.3	19	38.0	21	45.3	0	--	0	--	1	1.3	0	--	24	39.1	141
2003	71	42.4	4	42.9	12	42.5	21	38.0	25	43.0	0	--	1	30.7	0	--	0	--	20	45.1	154
2004	63	43.5	5	39.9	9	41.3	21	39.9	15	39.1	0	--	1	35.1	1	13.6	0	--	25	43.1	140
2005	60	41.2	2	33.3	6	33.2	20	40.8	15	44.7	0	--	0	--	3	6.0	0	--	36	45.1	142
2006	48	44.2	0	--	4	38.2	16	42.0	8	43.5	0	--	2	41.4	1	3.3	0	--	16	42.4	95
<b>Total</b>	<b>5,545</b>	<b>39.2</b>	<b>316</b>	<b>35.1</b>	<b>286</b>	<b>36.6</b>	<b>328</b>	<b>38.9</b>	<b>476</b>	<b>42.1</b>	<b>109</b>	<b>37.0</b>	<b>95</b>	<b>46.2</b>	<b>29</b>	<b>2.7</b>	<b>5</b>	<b>45.7</b>	<b>506</b>	<b>40.0</b>	<b>7,695</b>

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, MTC=mother to child transmission, NIR=no identified risk, including "other" and "unknown"

Data source: Ontario AIDS Surveillance Program, Public Health Branch, Ministry of Health and Long-Term Care (cases reported to September 2007)

**Table 2.10 Mean age (years) at AIDS diagnosis among females by year of AIDS diagnosis and exposure category, Ontario, 1981 to 2006**

Year	IDU		HIV-endemic		Hetero		Clotting factor		Transfusion		MTC		Occupational		NIR		Total
	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean	n	mean	
1981	0	--	1	52.2	0	--	0	--	0	--	0	--	0	--	0	--	1
1982	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
1983	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
1984	1	23.8	0	--	0	--	0	--	0	--	0	--	0	--	0	--	1
1985	0	--	1	36.7	0	--	0	--	1	52.5	0	--	0	--	0	--	2
1986	0	--	1	29.2	0	--	1	56.1	1	12.1	0	--	0	--	1	28.2	4
1987	1	32.4	3	35.1	3	28.1	1	24.4	8	54.5	1	0.2	0	--	1	23.4	18
1988	2	26.9	1	26.4	4	29.4	0	--	7	49.7	1	0.3	0	--	1	63.7	16
1989	3	31.9	3	30.8	6	40.5	1	30.4	5	48.1	1	0.6	0	--	0	--	19
1990	4	32.3	7	34.0	10	35.5	0	--	5	41.1	1	0.6	1	69.9	2	34.6	30
1991	4	32.3	8	41.0	14	39.2	1	61.7	5	41.9	2	1.1	0	--	2	25.7	36
1992	9	32.6	8	32.6	14	38.4	1	75.7	3	36.1	2	0.4	0	--	3	33.5	40
1993	4	31.4	6	34.4	18	37.7	0	--	4	34.7	3	0.6	0	--	2	26.8	37
1994	7	31.1	10	37.3	24	37.5	1	35.4	1	51.7	4	3.6	0	--	4	22.0	51
1995	9	34.2	8	31.6	23	36.4	1	32.0	5	36.9	6	3.1	0	--	0	--	52
1996	8	34.5	23	33.0	25	38.4	0	--	1	42.1	1	3.4	0	--	2	21.2	60
1997	3	32.6	12	33.0	12	37.6	2	36.9	2	61.2	0	--	0	--	2	44.4	33
1998	10	34.6	11	39.0	17	39.2	0	--	0	--	2	1.9	1	47.1	3	37.7	44
1999	6	36.3	15	43.9	5	40.2	0	--	2	38.7	1	0.3	0	--	4	38.1	33
2000	4	35.6	4	31.6	10	37.1	0	--	0	--	2	0.4	0	--	4	42.5	24
2001	1	40.8	20	33.5	9	40.7	0	--	1	56.4	1	0.3	0	--	5	48.0	37
2002	4	37.7	16	34.9	5	45.1	0	--	1	60.7	0	--	0	--	6	27.3	32
2003	5	42.9	15	33.7	12	44.2	0	--	0	--	1	0.3	0	--	9	39.0	42
2004	6	38.3	13	37.7	13	47.4	0	--	0	--	1	0.9	0	--	5	38.2	38
2005	4	40.4	12	34.8	11	40.0	0	--	0	--	1	3.3	0	--	10	40.6	38
2006	2	38.1	10	36.6	7	50.5	0	--	0	--	1	0.1	0	--	13	36.8	33
<b>Total</b>	<b>97</b>	<b>34.6</b>	<b>208</b>	<b>35.5</b>	<b>242</b>	<b>39.2</b>	<b>9</b>	<b>43.3</b>	<b>52</b>	<b>45.1</b>	<b>32</b>	<b>1.6</b>	<b>2</b>	<b>58.5</b>	<b>79</b>	<b>36.4</b>	<b>721</b>

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, MTC=mother to child transmission, NIR=no identified risk, including "other" and "unknown"

Data source: Ontario AIDS Surveillance Program, Public Health Branch, Ministry of Health and Long-Term Care (cases reported to September 2007)



**Table 2.11 Number and proportion<sup>1</sup> of AIDS cases by exposure category and health region, Ontario, 1981 to 2006**

Exposure category	Northern		Ottawa		Eastern, other		Toronto		Central East, other		Central West		Southwest		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	105	37.9%	372	59.0%	102	39.5%	3,749	74.7%	384	48.0%	438	57.3%	396	58.8%	5,546	65.9%
MSM-IDU	16	5.8%	23	3.6%	12	4.7%	189	3.8%	20	2.5%	22	2.9%	35	5.2%	317	3.8%
IDU	34	12.3%	56	8.9%	37	14.3%	137	2.7%	36	4.5%	48	6.3%	35	5.2%	383	4.5%
HIV-endemic	11	4.0%	81	12.8%	4	1.6%	343	6.8%	44	5.5%	41	5.4%	12	1.8%	536	6.4%
Heterosexual	23	8.3%	40	6.3%	16	6.2%	319	6.4%	146	18.3%	96	12.5%	78	11.6%	718	8.5%
Clotting factor	10	3.6%	12	1.9%	9	3.5%	26	0.52%	27	3.4%	18	2.4%	16	2.4%	118	1.4%
Transfusion	8	2.9%	9	1.4%	11	4.3%	50	1.0%	41	5.1%	17	2.2%	11	1.6%	147	1.7%
MTC	2	0.72%	10	1.6%	1	0.39%	34	0.68%	7	0.88%	5	0.65%	2	0.30%	61	0.72%
Occupational	0	0.0%	2	0.32%	0	0.0%	4	0.08%	1	0.13%	0	0.0%	0	0.0%	7	0.08%
NIR	68	24.5%	26	4.1%	66	25.6%	166	3.3%	94	11.8%	80	10.5%	88	13.1%	588	7.0%
<b>Total</b>	<b>277</b>	<b>100%</b>	<b>631</b>	<b>100%</b>	<b>258</b>	<b>100%</b>	<b>5,017</b>	<b>100%</b>	<b>800</b>	<b>100%</b>	<b>765</b>	<b>100%</b>	<b>673</b>	<b>100%</b>	<b>8,421</b>	<b>100%</b>

1 Column percent

Notes: 1 Assignment to exposure categories based on mutually exclusive hierarchy of risks

2 Modes of transmission were not independently validated

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, MTC=mother to child transmission, NIR=no identified risk, including "other" and "unknown"

Data source: Ontario AIDS Surveillance Program, Public Health Branch, Ministry of Health and Long-Term Care (cases reported to September 2007)

**Table 2.12 Number and proportion<sup>1</sup> of AIDS cases (adjusted<sup>2</sup>) by exposure category and health region, Ontario, 1981 to 2006**

Exposure category	Northern		Ottawa		Eastern, other		Toronto		Central East, other		Central West		Southwest		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	131	47.5%	383	60.7%	129	49.8%	3,863	77.0%	431	53.8%	488	63.8%	451	67.1%	5,877	69.8%
MSM-IDU	22	7.8%	24	3.8%	17	6.5%	195	3.9%	22	2.8%	25	3.3%	40	6.0%	345	4.1%
IDU	48	17.3%	61	9.6%	58	22.6%	144	2.9%	40	5.1%	55	7.1%	42	6.3%	448	5.3%
HIV-endemic	14	5.0%	86	13.7%	5	2.0%	365	7.3%	54	6.7%	46	6.0%	13	2.0%	583	6.9%
Heterosexual	37	13.4%	43	6.8%	25	9.8%	334	6.7%	170	21.2%	107	14.0%	93	13.8%	809	9.6%
Clotting factor	13	4.7%	12	2.0%	10	4.0%	27	0.53%	30	3.8%	20	2.7%	18	2.7%	131	1.6%
Transfusion	10	3.7%	9	1.5%	13	4.9%	52	1.0%	45	5.6%	19	2.4%	13	1.9%	160	1.9%
MTC	2	0.72%	10	1.6%	1	0.39%	34	0.68%	7	0.88%	5	0.65%	2	0.30%	61	0.72%
Occupational	0	0.0%	2	0.34%	0	0.0%	4	0.08%	1	0.15%	0	0.0%	0	0.0%	8	0.09%
<b>Total</b>	<b>277</b>	<b>100%</b>	<b>631</b>	<b>100%</b>	<b>258</b>	<b>100%</b>	<b>5,017</b>	<b>100%</b>	<b>800</b>	<b>100%</b>	<b>765</b>	<b>100%</b>	<b>673</b>	<b>100%</b>	<b>8,421</b>	<b>100%</b>

1 Column percent

2 Adjusted unknown exposure category based on proportion among the known cases stratified by sex, health region and year of diagnosis; thus, total may differ slightly due to rounding

Notes: 1 Assignment to exposure categories based on mutually exclusive hierarchy of risks

2 Modes of transmission were not independently validated

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, MTC=mother to child transmission

Data source: Ontario AIDS Surveillance Program, Public Health Branch, Ministry of Health and Long-Term Care (cases reported to September 2007)

**Table 2.13 Number and proportion<sup>1</sup> of AIDS cases by exposure category and health region, Ontario, 2006**

Exposure category	Northern		Ottawa		Eastern, other		Toronto		Central East, other		Central West		Southwest		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	0	0.0%	0	0.0%	2	20.0%	32	48.5%	6	54.5%	7	33.3%	1	14.3%	48	37.5%
MSM-IDU	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
IDU	0	0.0%	0	0.0%	0	0.0%	2	3.0%	1	9.1%	2	9.5%	1	14.3%	6	4.7%
HIV-endemic	1	12.5%	2	40.0%	0	0.0%	20	30.3%	0	0.0%	2	9.5%	1	14.3%	26	20.3%
Heterosexual	0	0.0%	0	0.0%	0	0.0%	5	7.6%	3	27.3%	6	28.6%	1	14.3%	15	11.7%
Clotting factor	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Transfusion	1	12.5%	0	0.0%	0	0.0%	1	1.5%	0	0.0%	0	0.0%	0	0.0%	2	1.6%
MTC	0	0.0%	0	0.0%	0	0.0%	1	1.5%	1	9.1%	0	0.0%	0	0.0%	2	1.6%
Occupational	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
NIR	6	75.0%	3	60.0%	8	80.0%	5	7.6%	0	0.0%	4	19.0%	3	42.9%	29	22.7%
<b>Total</b>	<b>8</b>	<b>100%</b>	<b>5</b>	<b>100%</b>	<b>10</b>	<b>100%</b>	<b>66</b>	<b>100%</b>	<b>11</b>	<b>100%</b>	<b>21</b>	<b>100%</b>	<b>7</b>	<b>100%</b>	<b>128</b>	<b>100%</b>

1 Column percent

Notes: 1 Assignment to exposure categories based on mutually exclusive hierarchy of risks

2 Modes of transmission were not independently validated

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, MTC=mother to child transmission,

NIR=no identified risk, including "other" and "unknown"

Data source: Ontario AIDS Surveillance Program, Public Health Branch, Ministry of Health and Long-Term Care (cases reported to September 2007)

**Table 2.14 Number and proportion<sup>1</sup> of AIDS cases (adjusted<sup>2</sup>) by exposure category and health region, Ontario, 2006**

Exposure category	Northern		Ottawa		Eastern, other		Toronto		Central East, other		Central West		Southwest		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
MSM	0	5.0%	0	7.3%	4	40.0%	33	50.4%	6	54.5%	9	41.0%	2	28.6%	55	42.7%
MSM-IDU	0	3.3%	0	0.73%	1	5.0%	0	0.08%	0	0.0%	0	0.68%	0	0.95%	1	0.83%
IDU	2	28.1%	1	12.9%	3	32.0%	2	3.4%	1	9.1%	3	12.7%	2	22.9%	14	10.6%
HIV-endemic	1	18.3%	3	66.1%	0	3.5%	22	33.8%	0	0.0%	3	13.2%	1	14.3%	31	24.4%
Heterosexual	2	25.4%	0	9.7%	2	17.0%	6	9.1%	3	27.3%	7	32.0%	2	32.3%	22	17.4%
Clotting factor	0	1.7%	0	0.65%	0	0.0%	0	0.0%	0	0.0%	0	0.23%	0	0.0%	0	0.17%
Transfusion	1	18.3%	0	1.3%	0	2.6%	1	1.6%	0	0.0%	0	0.23%	0	0.95%	3	2.3%
MTC	0	0.0%	0	0.0%	0	0.0%	1	1.5%	1	9.1%	0	0.0%	0	0.0%	2	1.6%
Occupational	0	0.0%	0	1.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.05%
<b>Total</b>	<b>8</b>	<b>100%</b>	<b>5</b>	<b>100%</b>	<b>10</b>	<b>100%</b>	<b>66</b>	<b>100%</b>	<b>11</b>	<b>100%</b>	<b>21</b>	<b>100%</b>	<b>7</b>	<b>100%</b>	<b>128</b>	<b>100%</b>

1 Column percent

2 Adjusted unknown exposure category based on proportion among the known cases stratified by sex, health region and year of diagnosis; thus, total may differ slightly due to rounding

Notes: 1 Assignment to exposure categories based on mutually exclusive hierarchy of risks

2 Modes of transmission were not independently validated

Legend: MSM=men who have sex with men, IDU=injection drug user, MSM-IDU=men who have sex with men and use injection drugs, MTC=mother to child transmission

Data source: Ontario AIDS Surveillance Program, Public Health Branch, Ministry of Health and Long-Term Care (cases reported to September 2007)

**Table 2.15 Single and multiple sources of exposure among AIDS cases, Ontario, 1981 to 2006**

	Number	% <sup>1</sup>
<b>Men who have sex with men (MSM)</b>	<b>4,370</b>	<b>55.7%</b>
MSM/IDU	201	2.6%
MSM/IDU/bisexual	96	1.2%
MSM/IDU/others	24	0.31%
MSM/clotting factor	6	0.08%
MSM/clotting factor/other	10	0.13%
MSM/HIV-endemic	142	1.8%
MSM/HIV-endemic/bisexual	74	0.94%
MSM/bisexual	700	8.9%
MSM/bisexual/transfusion	23	0.29%
MSM/bisexual/transfusion/occupational	1	0.01%
MSM/bisexual/occupational	4	0.05%
MSM/bisexual/others	19	0.24%
MSM/transfusion	96	1.2%
MSM/occupational	57	0.73%
MSM/others	52	0.66%
<b>SUB-TOTAL</b>	<b>5,875</b>	<b>74.9%</b>
<b>IDU</b>	<b>118</b>	<b>1.5%</b>
IDU/HIV-endemic/heterosexual other	11	0.14%
IDU/heterosexual other	248	3.2%
IDU/others	7	0.09%
<b>SUB-TOTAL</b>	<b>384</b>	<b>4.9%</b>
<b>Clotting factor</b>	<b>81</b>	<b>1.0%</b>
Clotting factor/heterosexual other	22	0.28%
Clotting factor/heterosexual other/transfusion	9	0.11%
Clotting factor/heterosexual other/transfusion/occupational	1	0.01%
Clotting factor/transfusion	8	0.10%
<b>SUB-TOTAL</b>	<b>121</b>	<b>1.5%</b>
<b>HIV-endemic</b>	<b>99</b>	<b>1.3%</b>
HIV-endemic/heterosexual other	422	5.4%
HIV-endemic/others	14	0.18%
<b>SUB-TOTAL</b>	<b>535</b>	<b>6.8%</b>
<b>Heterosexual</b>	<b>673</b>	<b>8.6%</b>
Heterosexual other/transfusion	71	0.91%
Heterosexual other/transfusion/occupational	4	0.05%
Heterosexual/occupational	10	0.13%
<b>SUB-TOTAL</b>	<b>758</b>	<b>9.7%</b>
<b>Transfusion</b>	<b>98</b>	<b>1.3%</b>
Transfusion/occupational	1	0.0%
<b>SUB-TOTAL</b>	<b>99</b>	<b>1.3%</b>
<b>Mother-child transmission</b>	<b>61</b>	<b>0.78%</b>
<b>Occupational</b>	<b>6</b>	<b>0.08%</b>
<b>Unknown</b>	<b>582</b>	
<b>GRAND TOTAL</b>	<b>8,421</b>	<b>100%</b>

<sup>1</sup> Percent of cases with known source of exposure

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs, MTC=mother to child transmission, NIR=no identified risk, including "other" and "unknown"

Data source: Ontario AIDS Surveillance Program, Public Health Branch, Ministry of Health and Long-Term Care (cases reported to September 2007)

**Table 2.16 Number and proportion<sup>1</sup> of AIDS cases by year of AIDS diagnosis and health region, Ontario, 1981 to 2006**

Year of diagnosis	Northern		Ottawa		Eastern, other		Toronto		Central East, other		Central West		Southwest		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
1981	1	50.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	50.0%	2
1982	0	0.0%	0	0.0%	0	0.0%	4	57.1%	0	0.0%	2	28.6%	1	14.3%	7
1983	1	5.0%	2	10.0%	1	5.0%	13	65.0%	0	0.0%	2	10.0%	1	5.0%	20
1984	0	0.0%	1	1.7%	1	1.7%	48	81.4%	2	3.4%	3	5.1%	4	6.8%	59
1985	1	0.62%	12	7.4%	5	3.1%	108	66.7%	13	8.0%	9	5.6%	14	8.6%	162
1986	8	3.1%	13	5.0%	6	2.3%	167	63.7%	23	8.8%	22	8.4%	23	8.8%	262
1987	12	2.9%	28	6.7%	11	2.6%	270	64.9%	38	9.1%	33	7.9%	24	5.8%	416
1988	14	3.0%	28	6.0%	14	3.0%	287	61.9%	52	11.2%	31	6.7%	38	8.2%	464
1989	14	2.6%	37	6.8%	15	2.8%	351	64.4%	42	7.7%	41	7.5%	45	8.3%	545
1990	9	1.4%	46	7.2%	18	2.8%	405	63.3%	51	8.0%	61	9.5%	50	7.8%	640
1991	17	2.7%	64	10.1%	18	2.8%	352	55.6%	60	9.5%	60	9.5%	62	9.8%	633
1992	26	3.5%	43	5.9%	26	3.5%	439	59.8%	61	8.3%	73	9.9%	66	9.0%	734
1993	19	2.6%	49	6.7%	15	2.0%	455	62.0%	76	10.4%	58	7.9%	62	8.4%	734
1994	23	3.4%	52	7.7%	12	1.8%	421	62.0%	58	8.5%	55	8.1%	58	8.5%	679
1995	21	3.2%	45	6.8%	26	3.9%	394	59.8%	57	8.6%	60	9.1%	56	8.5%	659
1996	11	2.4%	39	8.6%	9	2.0%	265	58.5%	49	10.8%	40	8.8%	40	8.8%	453
1997	8	3.0%	34	12.5%	5	1.8%	150	55.4%	28	10.3%	27	10.0%	19	7.0%	271
1998	16	6.6%	31	12.8%	5	2.1%	127	52.3%	21	8.6%	28	11.5%	15	6.2%	243
1999	13	6.1%	21	9.9%	6	2.8%	116	54.7%	17	8.0%	20	9.4%	19	9.0%	212
2000	4	2.5%	14	8.6%	6	3.7%	93	57.1%	19	11.7%	18	11.0%	9	5.5%	163
2001	5	2.4%	25	12.1%	10	4.8%	103	49.8%	31	15.0%	17	8.2%	16	7.7%	207
2002	8	4.6%	18	10.4%	9	5.2%	97	56.1%	19	11.0%	9	5.2%	13	7.5%	173
2003	13	6.6%	7	3.6%	9	4.6%	105	53.6%	23	11.7%	27	13.8%	12	6.1%	196
2004	8	4.5%	11	6.2%	10	5.6%	99	55.6%	21	11.8%	22	12.4%	7	3.9%	178
2005	17	9.4%	6	3.3%	11	6.1%	82	45.3%	28	15.5%	26	14.4%	11	6.1%	181
2006	8	6.3%	5	3.9%	10	7.8%	66	51.6%	11	8.6%	21	16.4%	7	5.5%	128
<b>Total</b>	<b>277</b>	<b>3.3%</b>	<b>631</b>	<b>7.5%</b>	<b>258</b>	<b>3.1%</b>	<b>5,017</b>	<b>59.6%</b>	<b>800</b>	<b>9.5%</b>	<b>765</b>	<b>9.1%</b>	<b>673</b>	<b>8.0%</b>	<b>8,421</b>

<sup>1</sup> Row percent

Data source: Ontario AIDS Surveillance Program, Public Health Branch, Ministry of Health and Long-Term Care (cases reported to September 2007)



**Table 2.17 Number of AIDS cases and rate (per 100,000) by health region and sex  
Ontario, 1981 to 2006**

Health region	Males		Females			Total	
	No.	Rate	No.	Rate	% female <sup>1</sup>	No.	Rate
Northern	232	54.4	45	10.5	16.2%	277	32.4
Ottawa	554	152.2	77	20.4	12.2%	631	85.1
Eastern, other	228	58.3	30	7.5	11.6%	258	32.7
Toronto	4,707	394.5	310	24.5	6.2%	5,017	204.0
Central East, other	689	52.6	111	8.4	13.9%	800	30.3
Central West	681	65.3	84	7.8	11.0%	765	36.2
Southwest	609	83.3	64	8.5	9.5%	673	45.3
<b>Ontario</b>	<b>7,700</b>	<b>141.0</b>	<b>721</b>	<b>12.8</b>	<b>8.6%</b>	<b>8,421</b>	<b>76.0</b>

1 Row percent

Data sources: Ontario AIDS Surveillance Program, Public Health Branch, Ministry of Health and Long-Term Care  
(cases reported to September 2007)  
Statistics Canada (1996 census)

**Table 2.18 Number of AIDS cases and rate per 100,000 by public health unit, health region, and sex, Ontario 1981 to 2006**

Public Health Unit	Males		Females		Total	
	No.	Rate	No.	Rate	No.	Rate
Algoma	22	34.2	2	3.0	24	18.5
North Bay-Parry Sound	56	90.3	6	9.5	62	49.4
Northwestern	11	25.9	7	16.8	18	21.4
Porcupine	10	19.7	3	6.1	13	13.0
Sudbury	78	75.7	9	8.6	87	42.0
Thunder Bay	45	53.8	17	20.4	62	37.1
Timiskaming	10	50.2	1	5.0	11	27.5
<b>Northern</b>	<b>232</b>	<b>54.4</b>	<b>45</b>	<b>10.5</b>	<b>277</b>	<b>32.4</b>
<b>Ottawa</b>	<b>554</b>	<b>152.2</b>	<b>77</b>	<b>20.4</b>	<b>631</b>	<b>85.1</b>
Eastern Ontario	35	36.8	5	5.2	40	20.9
Hastings-Prince Edward	51	66.1	4	5.0	55	35.1
Kingston-Frontenac	75	83.7	14	15.4	89	49.3
Leeds-Grenville-Lanark	50	63.2	4	4.9	54	33.7
Renfrew	17	33.9	3	5.9	20	19.9
<b>Eastern, other</b>	<b>228</b>	<b>58.3</b>	<b>30</b>	<b>7.5</b>	<b>258</b>	<b>32.7</b>
<b>Toronto</b>	<b>4,707</b>	<b>394.5</b>	<b>310</b>	<b>24.5</b>	<b>5,017</b>	<b>204.0</b>
Durham	114	48.7	17	7.2	131	27.8
Haliburton,-Kawartha-Pine Ridge	23	28.6	4	4.9	27	16.7
Peel	284	64.9	49	11.1	333	37.9
Peterborough	35	56.9	1	1.5	36	28.4
Simcoe-Muskoka	107	55.3	19	9.6	126	32.2
York Region	126	41.5	21	6.8	147	24.1
<b>Central East, other</b>	<b>689</b>	<b>52.6</b>	<b>111</b>	<b>8.4</b>	<b>800</b>	<b>30.3</b>
Brant	42	68.9	12	19.0	54	43.5
Haldimand-Norfolk	21	40.0	5	9.5	26	24.7
Halton	100	57.8	8	4.5	108	30.9
Hamilton-Wentworth	230	97.5	20	8.2	250	52.0
Niagara	135	66.6	20	9.4	155	37.4
Waterloo	88	42.6	12	5.7	100	24.0
Wellington-Dufferin	65	58.4	7	6.3	72	32.3
<b>Central West†</b>	<b>681</b>	<b>65.3</b>	<b>84</b>	<b>7.8</b>	<b>765</b>	<b>36.2</b>
Chatham-Kent	33	59.5	0	0.0	33	29.3
Elgin St. Thomas	12	29.8	5	12.1	17	20.9
Grey Bruce	27	34.5	2	2.5	29	18.4
Huron	13	42.3	1	3.2	14	22.6
Lambton	23	35.0	6	8.9	29	21.8
Middlesex-London	248	126.1	25	12.1	273	67.8
Oxford	26	52.8	3	5.9	29	29.1
Perth	20	54.5	2	5.3	22	29.7
Windsor-Essex	207	116.6	20	10.9	227	63.0
<b>Southwest</b>	<b>609</b>	<b>83.3</b>	<b>64</b>	<b>8.5</b>	<b>673</b>	<b>45.3</b>
<b>Total</b>	<b>7,700</b>	<b>141.0</b>	<b>721</b>	<b>12.8</b>	<b>8,421</b>	<b>76.0</b>

Data sources: Ontario AIDS Surveillance Program, Public Health Branch, Ministry of Health and Long-Term Care  
(cases reported to September 2007)  
Statistics Canada (1996 census)

**Table 3.1 Prenatal HIV testing by quarter in Ontario, 1999 to 2006**

Quarter	Not tested	Tested		Any test	Total	% Tested		
		Current	Prior			Current	Prior	Total
1999Q1	19,027	10,467	1,768	12,235	31,262	33.5%	5.7%	39.1%
1999Q2	16,043	12,475	1,775	14,250	30,293	41.2%	5.9%	47.0%
1999Q3	16,863	13,806	1,821	15,627	32,490	42.5%	5.6%	48.1%
1999Q4	16,577	15,082	2,049	17,131	33,708	44.7%	6.1%	50.8%
<b>1999</b>	<b>68,510</b>	<b>51,830</b>	<b>7,413</b>	<b>59,243</b>	<b>127,753</b>	<b>40.6%</b>	<b>5.8%</b>	<b>46.4%</b>
2000Q1	17,095	15,334	2,267	17,601	34,696	44.2%	6.5%	50.7%
2000Q2	15,979	15,023	2,052	17,075	33,054	45.4%	6.2%	51.7%
2000Q3	16,657	16,885	2,446	19,331	35,988	46.9%	6.8%	53.7%
2000Q4	16,299	17,046	2,612	19,658	35,957	47.4%	7.3%	54.7%
<b>2000</b>	<b>66,030</b>	<b>64,288</b>	<b>9,377</b>	<b>73,665</b>	<b>139,695</b>	<b>46.0%</b>	<b>6.7%</b>	<b>52.7%</b>
2001Q1	16,591	19,080	2,901	21,981	38,572	49.5%	7.5%	57.0%
2001Q2	14,643	17,933	2,849	20,782	35,425	50.6%	8.0%	58.7%
2001Q3	13,644	19,785	2,709	22,494	36,138	54.7%	7.5%	62.2%
2001Q4	9,874	24,133	2,207	26,340	36,214	66.6%	6.1%	72.7%
<b>2001</b>	<b>54,752</b>	<b>80,931</b>	<b>10,666</b>	<b>91,597</b>	<b>146,349</b>	<b>55.3%</b>	<b>7.3%</b>	<b>62.6%</b>
2002Q1	9,611	25,592	2,245	27,837	37,448	68.3%	6.0%	74.3%
2002Q2	8,497	24,979	2,209	27,188	35,685	70.0%	6.2%	76.2%
2002Q3	7,668	26,220	2,039	28,259	35,927	73.0%	5.7%	78.7%
2002Q4	7,419	26,586	2,154	28,740	36,159	73.5%	6.0%	79.5%
<b>2002</b>	<b>33,195</b>	<b>103,377</b>	<b>8,647</b>	<b>112,024</b>	<b>145,219</b>	<b>71.2%</b>	<b>6.0%</b>	<b>77.1%</b>
2003Q1	7,346	29,376	2,244	31,620	38,966	75.4%	5.8%	81.1%
2003Q2	6,440	27,715	2,247	29,962	36,402	76.1%	6.2%	82.3%
2003Q3	6,097	29,010	2,090	31,100	37,197	78.0%	5.6%	83.6%
2003Q4	4,912	30,843	1,735	32,578	37,490	82.3%	4.6%	86.9%
<b>2003</b>	<b>24,795</b>	<b>116,944</b>	<b>8,316</b>	<b>125,260</b>	<b>150,055</b>	<b>77.9%</b>	<b>5.5%</b>	<b>83.5%</b>
2004Q1	4,675	32,843	1,866	34,709	39,384	83.4%	4.7%	88.1%
2004Q2	3,992	30,784	1,715	32,499	36,491	84.4%	4.7%	89.1%
2004Q3	4,029	31,480	1,897	33,377	37,406	84.2%	5.1%	89.2%
2004Q4	3,692	31,671	1,937	33,608	37,300	84.9%	5.2%	90.1%
<b>2004</b>	<b>16,388</b>	<b>126,778</b>	<b>7,415</b>	<b>134,193</b>	<b>150,581</b>	<b>84.2%</b>	<b>4.9%</b>	<b>89.1%</b>
2005Q1	3,638	33,426	2,111	35,537	39,175	85.3%	5.4%	90.7%
2005Q2	3,244	31,706	1,940	33,646	36,890	85.9%	5.3%	91.2%
2005Q3	3,311	31,054	2,012	33,066	36,377	85.4%	5.5%	90.9%
2005Q4	3,083	31,476	1,942	33,418	36,501	86.2%	5.3%	91.6%
<b>2005</b>	<b>13,276</b>	<b>127,662</b>	<b>8,005</b>	<b>135,667</b>	<b>148,943</b>	<b>85.7%</b>	<b>5.4%</b>	<b>91.1%</b>
2006Q1	3,143	35,308	2,089	37,397	40,540	87.1%	5.2%	92.2%
2006Q2	2,559	32,343	1,849	34,192	36,751	88.0%	5.0%	93.0%
2006Q3	2,307	33,075	1,678	34,753	37,060	89.2%	4.5%	93.8%
2006Q4	2,191	35,542	1,727	37,269	39,460	90.1%	4.4%	94.4%
<b>2006</b>	<b>10,200</b>	<b>136,268</b>	<b>7,343</b>	<b>143,611</b>	<b>153,811</b>	<b>88.6%</b>	<b>4.8%</b>	<b>93.4%</b>
<b>Grand total</b>	<b>287,146</b>	<b>808,078</b>	<b>67,182</b>	<b>875,260</b>	<b>1,162,406</b>	<b>69.5%</b>	<b>5.8%</b>	<b>75.3%</b>

**Table 3.2 Prenatal HIV testing rates by health region and public health unit in Ontario, 2006**

Public Health Unit	Not tested	Tested		Any test	Total	Proportion tested			Current Rank
		Current	Prior			Current	Prior	Total	
Algoma	69	1,147	52	1,199	1,268	90.5%	4.1%	94.6%	11
North Bay-Parry Sound	79	1,051	56	1,107	1,186	88.6%	4.7%	93.3%	20
Northwestern	31	1,455	29	1,484	1,515	96.0%	1.9%	98.0%	2
Porcupine	129	744	34	778	907	82.0%	3.7%	85.8%	36
Sudbury	159	1,858	131	1,989	2,148	86.5%	6.1%	92.6%	29
Thunder Bay	80	1,368	70	1,438	1,518	90.1%	4.6%	94.7%	15
Timiskaming	12	342	13	355	367	93.2%	3.5%	96.7%	4
<b>Northern</b>	<b>559</b>	<b>7,965</b>	<b>385</b>	<b>8,350</b>	<b>8,909</b>	<b>89.4%</b>	<b>4.3%</b>	<b>93.7%</b>	
<b>Ottawa</b>	<b>655</b>	<b>11,229</b>	<b>580</b>	<b>11,809</b>	<b>12,464</b>	<b>90.1%</b>	<b>4.7%</b>	<b>94.7%</b>	16
Eastern Ontario	172	3,364	191	3,555	3,727	90.3%	5.1%	95.4%	12
Hastings,-Prince Edward	84	1,501	69	1,570	1,654	90.7%	4.2%	94.9%	10
Kingston-Frontenac-Len. -Add.	248	3,314	224	3,538	3,786	87.5%	5.9%	93.4%	24
Leeds,Grenville-Lanark	49	1,403	54	1,457	1,506	93.2%	3.6%	96.7%	5
Renfrew County	62	964	53	1,017	1,079	89.3%	4.9%	94.3%	18
<b>Eastern, other</b>	<b>615</b>	<b>10,546</b>	<b>591</b>	<b>11,137</b>	<b>11,752</b>	<b>89.7%</b>	<b>5.0%</b>	<b>94.8%</b>	
<b>Toronto</b>	<b>2,763</b>	<b>32,638</b>	<b>1,804</b>	<b>34,442</b>	<b>37,205</b>	<b>87.7%</b>	<b>4.8%</b>	<b>92.6%</b>	23
Durham Regional	346	5,771	300	6,071	6,417	89.9%	4.7%	94.6%	17
Haliburton-Kawartha-Pine Ridge	78	1,174	69	1,243	1,321	88.9%	5.2%	94.1%	19
Peel Regional	963	15,296	700	15,996	16,959	90.2%	4.1%	94.3%	14
Peterborough	77	1,074	78	1,152	1,229	87.4%	6.3%	93.7%	26
York Regional	782	7,990	578	8,568	9,350	85.5%	6.2%	91.6%	31
Simcoe-Muskoka	284	2,284	197	2,481	2,765	82.6%	7.1%	89.7%	34
<b>Central East, other</b>	<b>2,530</b>	<b>33,589</b>	<b>1,922</b>	<b>35,511</b>	<b>38,041</b>	<b>88.3%</b>	<b>5.1%</b>	<b>93.3%</b>	
Brant County	63	1,466	58	1,524	1,587	92.4%	3.7%	96.0%	6
Haldimand-Norfolk	33	746	37	783	816	91.4%	4.5%	96.0%	7
Halton Regional	396	4,921	276	5,197	5,593	88.0%	4.9%	92.9%	21
Hamilton-Wentworth	443	5,053	284	5,337	5,780	87.4%	4.9%	92.3%	25
Niagara Regional	425	3,556	228	3,784	4,209	84.5%	5.4%	89.9%	33
Waterloo	267	4,174	186	4,360	4,627	90.2%	4.0%	94.2%	13
Wellington-Dufferin	278	2,879	165	3,044	3,322	86.7%	5.0%	91.6%	28
<b>Central West</b>	<b>1,905</b>	<b>22,795</b>	<b>1,234</b>	<b>24,029</b>	<b>25,934</b>	<b>87.9%</b>	<b>4.8%</b>	<b>92.7%</b>	
Chatham-Kent	143	1,140	99	1,239	1,382	82.5%	7.2%	89.7%	35
Elgin-St.Thomas	58	1,072	51	1,123	1,181	90.8%	4.3%	95.1%	9
Grey Bruce	136	1,404	78	1,482	1,618	86.8%	4.8%	91.6%	27
Huron County	29	524	22	546	575	91.1%	3.8%	95.0%	8
Middlesex-London	459	4,638	323	4,961	5,420	85.6%	6.0%	91.5%	30
Oxford County	126	1,025	49	1,074	1,200	85.4%	4.1%	89.5%	32
Perth District	75	942	56	998	1,073	87.8%	5.2%	93.0%	22
Sarnia-Lambton	46	1,315	47	1,362	1,408	93.4%	3.3%	96.7%	3
Windsor-Essex	63	4,986	80	5,066	5,129	97.2%	1.6%	98.8%	1
<b>Southwest</b>	<b>1,135</b>	<b>17,046</b>	<b>805</b>	<b>17,851</b>	<b>18,986</b>	<b>89.8%</b>	<b>4.2%</b>	<b>94.0%</b>	
Unknown/out-of-province	38	460	22	482	520	88.5%	4.2%	92.7%	
<b>Grand Total</b>	<b>10,200</b>	<b>136,268</b>	<b>7,343</b>	<b>143,611</b>	<b>153,811</b>	<b>88.6%</b>	<b>4.8%</b>	<b>93.4%</b>	

**Table 3.3 Number and rate (per 1,000) of HIV-positive tests in pregnant women by quarter in Ontario, 1999 to 2006**

Quarter	HIV result			Total tested	Positivity rate (per 1,000)	Time of testing	
	Pos	Neg	N/A			Current	Prior
1999Q1	2	12,231	2	12,233	0.16	2	0
1999Q2	3	14,246	1	14,249	0.21	3	0
1999Q3	3	15,620	4	15,623	0.19	3	0
1999Q4	3	17,125	3	17,128	0.18	1	2
<b>1999</b>	<b>11</b>	<b>59,222</b>	<b>10</b>	<b>59,233</b>	<b>0.19</b>	<b>9</b>	<b>2</b>
2000Q1	5	17,594	2	17,599	0.28	4	1
2000Q2	6	17,067	2	17,073	0.35	5	1
2000Q3	8	19,314	9	19,322	0.41	7	1
2000Q4	7	19,642	9	19,649	0.36	4	3
<b>2000</b>	<b>26</b>	<b>73,617</b>	<b>22</b>	<b>73,643</b>	<b>0.35</b>	<b>20</b>	<b>6</b>
2001Q1	14	21,963	4	21,977	0.64	12	2
2001Q2	13	20,762	7	20,775	0.63	8	5
2001Q3	7	22,475	12	22,482	0.31	4	3
2001Q4	13	26,316	11	26,329	0.49	8	5
<b>2001</b>	<b>47</b>	<b>91,516</b>	<b>34</b>	<b>91,563</b>	<b>0.51</b>	<b>32</b>	<b>15</b>
2002Q1	11	27,806	20	27,817	0.40	8	3
2002Q2	7	27,167	14	27,174	0.26	5	2
2002Q3	10	28,244	5	28,254	0.35	9	1
2002Q4	7	28,723	10	28,730	0.24	7	0
<b>2002</b>	<b>35</b>	<b>111,940</b>	<b>49</b>	<b>111,975</b>	<b>0.31</b>	<b>29</b>	<b>6</b>
2003Q1	11	31,590	19	31,601	0.35	8	3
2003Q2	14	29,939	9	29,953	0.47	10	4
2003Q3	17	31,076	7	31,093	0.55	15	2
2003Q4	19	32,551	8	32,570	0.58	17	2
<b>2003</b>	<b>61</b>	<b>125,156</b>	<b>43</b>	<b>125,217</b>	<b>0.49</b>	<b>50</b>	<b>11</b>
2004Q1	13	34,675	21	34,688	0.37	11	2
2004Q2	15	32,465	19	32,480	0.46	11	4
2004Q3	14	33,356	7	33,370	0.42	12	2
2004Q4	12	33,586	10	33,598	0.36	10	2
<b>2004</b>	<b>54</b>	<b>134,082</b>	<b>57</b>	<b>134,136</b>	<b>0.40</b>	<b>44</b>	<b>10</b>
2005Q1	7	35,520	10	35,527	0.20	4	3
2005Q2	0	33,638	8	33,638	0.00	0	0
2005Q3	9	33,047	10	33,056	0.27	4	5
2005Q4	15	33,397	6	33,412	0.45	5	10
<b>2005</b>	<b>31</b>	<b>135,602</b>	<b>34</b>	<b>135,633</b>	<b>0.23</b>	<b>13</b>	<b>18</b>
2006Q1	13	37,381	3	37,394	0.35	5	8
2006Q2	5	34,180	7	34,185	0.15	1	4
2006Q3	6	34,745	2	34,751	0.17	4	2
2006Q4	8	37,250	11	37,258	0.21	4	4
<b>2006</b>	<b>32</b>	<b>143,556</b>	<b>23</b>	<b>143,588</b>	<b>0.22</b>	<b>14</b>	<b>18</b>
<b>Grand total</b>	<b>297</b>	<b>874,691</b>	<b>272</b>	<b>874,988</b>	<b>0.34</b>	<b>211</b>	<b>86</b>

**Table 3.4 Number and rate (per 1,000) of HIV-positive tests in pregnant women by health region and public health unit in Ontario, 1999 to 2006**

Public Health Unit	Tested	Positive	Rate (per 1,000)	Rank
Algoma	7,873	2	0.25	12
North Bay-Parry Sound	7,810	0	0.00	27
Northwestern	8,805	3	0.34	7
Porcupine	4,561	0	0.00	27
Sudbury	12,275	3	0.24	13
Thunder Bay	10,982	3	0.27	10
Timiskaming	2,246	0	0.00	27
<b>Northern</b>	<b>54,552</b>	<b>11</b>	<b>0.20</b>	
<b>Ottawa</b>	<b>73,338</b>	<b>45</b>	<b>0.61</b>	2
Eastern Ontario	22,988	3	0.13	22
Hastings-Prince Edward	10,609	1	0.09	25
Kingston-Frontenac-Len.-Add.	22,214	5	0.23	15
Leeds, Grenville-Lanark	9,309	0	0.00	27
Renfrew County	6,220	0	0.00	27
<b>Eastern, other</b>	<b>71,340</b>	<b>9</b>	<b>0.13</b>	
<b>Toronto</b>	<b>210,746</b>	<b>137</b>	<b>0.65</b>	1
Durham Regional	38,302	0	0.00	27
Haliburton-Kawartha-Pine Ridge	6,996	2	0.29	9
Peel Regional	92,765	24	0.26	11
Peterborough	7,393	1	0.14	21
York Regional	52,038	11	0.21	17
Simcoe-Muskoka	15,373	1	0.07	26
<b>Central East, other</b>	<b>212,867</b>	<b>39</b>	<b>0.18</b>	
Brant County	9,136	0	0.00	27
Haldimand-Norfolk	4,541	1	0.22	16
Halton Regional	29,291	4	0.14	20
Hamilton-Wentworth	31,680	18	0.57	3
Niagara Regional	21,201	5	0.24	14
Waterloo	24,734	4	0.16	19
Wellington-Dufferin	17,387	6	0.35	6
<b>Central West</b>	<b>137,970</b>	<b>38</b>	<b>0.28</b>	
Chatham-Kent	6,935	0	0.00	27
Elgin-St. Thomas	6,187	2	0.32	8
Grey Bruce	8,253	1	0.12	23
Huron County	3,656	0	0.00	27
Middlesex-London	28,865	5	0.17	18
Oxford County	5,757	2	0.35	5
Perth District	6,097	0	0.00	27
Sarnia-Lambton	7,786	3	0.39	4
Windsor-Essex	37,568	4	0.11	24
<b>Southwest</b>	<b>111,104</b>	<b>17</b>	<b>0.15</b>	
Unknown/out-of-province	3,071	1	0.33	
<b>Grand Total</b>	<b>874,988</b>	<b>297</b>	<b>0.34</b>	



**Table 3.5a Number and proportion of children born in any country to HIV-positive mothers by year of birth and infection status of the child at latest follow-up, Ontario, 1984 to 2006**

Year of birth	Confirmed HIV-positive				Confirmed HIV-negative		Pending / unknown <sup>4</sup>	Total
	No.	% <sup>1</sup>	DA <sup>2</sup>	% DA <sup>3</sup>	No.	% <sup>1</sup>	No.	
1984	5	100%	3	60.0%	0	0.0%	0	5
1985	3	100%	1	33.3%	0	0.0%	0	3
1986	6	75.0%	5	83.3%	2	25.0%	0	8
1987	4	57.1%	1	25.0%	3	42.9%	0	7
1988	8	66.7%	4	50.0%	4	33.3%	0	12
1989	12	80.0%	2	16.7%	3	20.0%	0	15
1990	10	45.5%	4	40.0%	12	54.5%	0	22
1991	11	61.1%	5	45.5%	7	38.9%	0	18
1992	21	75.0%	2	9.5%	7	25.0%	0	28
1993	14	46.7%	5	35.7%	16	53.3%	0	30
1994	19	47.5%	5	26.3%	21	52.5%	1	41
1995	12	31.6%	1	8.3%	26	68.4%	0	38
1996	11	33.3%	2	18.2%	22	66.7%	2	35
1997	4	26.7%	0	0.0%	11	73.3%	1	16
1998	8	20.5%	0	0.0%	31	79.5%	2	41
1999	11	28.9%	1	9.1%	27	71.1%	0	38
2000	2	6.3%	0	0.0%	30	93.8%	1	33
2001	9	16.7%	0	0.0%	45	83.3%	0	54
2002	7	13.2%	0	0.0%	46	86.8%	0	53
2003	4	6.5%	0	0.0%	58	93.5%	3	65
2004	2	3.2%	0	0.0%	61	96.8%	4	67
2005	2	3.4%	0	0.0%	56	96.6%	3	61
2006	2	3.2%	0	0.0%	60	96.8%	14	76
<b>Total</b>	<b>187</b>	<b>25.4%</b>	<b>41</b>	<b>21.9%</b>	<b>548</b>	<b>74.6%</b>	<b>31</b>	<b>766</b>

<sup>1</sup> Proportion of cases with known infection status

<sup>2</sup> Died of AIDS

<sup>3</sup> Proportion of AIDS-related deaths among confirmed HIV-positive infants born that year

<sup>4</sup> Lost to follow-up: 1(1996), 1(1997), 1(1998), 3(2003), 1(2005)

Died, cause unknown: 1(1994), 1(1996), 2(2004)

HIV status pending: 1(1998), 1(2000), 2(2004), 2(2005), 14(2006)

Data source: Dr. Lindy Samson, Ontario Region, Canadian Pediatric AIDS Research Group

**Table 3.5b Number and proportion of children born in Canada<sup>1</sup> to HIV-positive mothers by year of birth and infection status of the child at latest follow-up, Ontario, 1984 to 2006**

Year of birth	Confirmed HIV-positive				Confirmed HIV-negative		Pending / unknown <sup>5</sup>	Total
	No.	% <sup>2</sup>	DA <sup>3</sup>	% DA <sup>4</sup>	No.	% <sup>2</sup>	No.	
1984	2	100%	2	100%	0	0.0%	0	2
1985	1	100%	0	0.0%	0	0.0%	0	1
1986	5	83.3%	4	80.0%	1	16.7%	0	6
1987	4	57.1%	1	25.0%	3	42.9%	0	7
1988	6	60.0%	4	66.7%	4	40.0%	0	10
1989	10	76.9%	2	20.0%	3	23.1%	0	13
1990	6	35.3%	2	33.3%	11	64.7%	0	17
1991	8	53.3%	5	62.5%	7	46.7%	0	15
1992	11	61.1%	2	18.2%	7	38.9%	0	18
1993	9	36.0%	5	55.6%	16	64.0%	0	25
1994a <sup>6</sup>	3	23.1%	1	33.3%	10	76.9%	0	13
1994b <sup>6</sup>	8	42.1%	3	37.5%	11	57.9%	1	20
1995	10	27.8%	1	10.0%	26	72.2%	0	36
1996	8	26.7%	2	25.0%	22	73.3%	2	32
1997	1	8.3%	0	0.0%	11	91.7%	1	13
1998	6	16.2%	0	0.0%	31	83.8%	1	38
1999	9	25.0%	1	11.1%	27	75.0%	0	36
2000	2	6.5%	0	0.0%	29	93.5%	0	31
2001	5	10.0%	0	0.0%	45	90.0%	0	50
2002	3	6.3%	0	0.0%	45	93.8%	0	48
2003	2	3.4%	0	0.0%	57	96.6%	3	62
2004	2	3.2%	0	0.0%	61	96.8%	2	65
2005	2	3.4%	0	0.0%	56	96.6%	3	61
2006	2	3.2%	0	0.0%	60	96.8%	14	76
<b>Total</b>	<b>125</b>	<b>18.7%</b>	<b>35</b>	<b>28.0%</b>	<b>543</b>	<b>81.3%</b>	<b>27</b>	<b>695</b>

1 Assumed that 44 infants with missing birthplace information were also born in Canada.

2 proportion of cases with known infection status

3 Died of AIDS

4 proportion of AIDS-related deaths among confirmed HIV-positive infants born that year

5 Lost to follow-up: 1(1996), 1(1997), 1(1998), 1(1999), 3(2003), 1(2005)

Died, cause unknown: 1(1994), 1(1996), 2(2004)

HIV status pending: 2(2005), 14(2006)

6 1994a: January 1994 to June 1994; 1994b: July 1994 to December 1994

Data source: Dr. Lindy Samson, Ontario Region, Canadian Pediatric AIDS Research Group

**Table 3.5c Number of HIV-infected children born in Canada<sup>1</sup> to HIV-positive mothers by year of birth with adjustment for delay in diagnosis, Ontario, 1984 to 2006**

Year of birth	Unadjusted total	Adjusted total	95% Confidence interval	
			Lower	Upper
1984	2	2	2	2
1985	1	1	1	1
1986	5	5	5	5
1987	4	4	4	4
1988	6	6	6	6
1989	10	10	10	10
1990	6	6	6	6
1991	8	8	8	8
1992	11	11	11	11
1993	9	9	9	9
1994	11	11	11	11
1995	10	10	10	10
1996	8	8	8	9
1997	1	1	1	1
1998	6	6	6	8
1999	9	10	9	12
2000	2	2	2	3
2001	5	6	5	8
2002	3	4	3	5
2003	2	3	2	4
2004	2	3	2	5
2005	2	3	2	6
2006	2	6	2	13
<b>Total</b>	<b>125</b>	<b>135</b>	<b>125</b>	<b>157</b>

<sup>1</sup> Assumed that 16 infants with missing birthplace information were also born in Canada

Data source: Dr. Lindy Samson, Ontario Region, Canadian Pediatric AIDS Research Group

**Table 3.6a Number and proportion of HIV-infected mothers giving birth in any country by geographic region of the reporting health institution and maternal exposure category, Ontario, 1984 to 2006**

Geographic region of the treating institution	IDU		HIV-endemic		Heterosexual		Transfusion		Unknown	Total	
	No.	% <sup>1</sup>	No.	% <sup>1</sup>	No.	% <sup>1</sup>	No.	% <sup>1</sup>	No.	No.	% <sup>2</sup>
Toronto	38	8.6%	288	65.3%	111	25.2%	4	0.91%	36	477	62.3%
Ottawa	38	21.1%	103	57.2%	36	20.0%	3	1.7%	3	183	23.9%
Other	9	9.7%	30	32.3%	53	57.0%	1	1.1%	13	106	13.8%
<i>London</i>	<i>0</i>	<i>0.0%</i>	<i>7</i>	<i>23.3%</i>	<i>22</i>	<i>73.3%</i>	<i>1</i>	<i>3.3%</i>	<i>6</i>	<i>36</i>	<i>4.7%</i>
<i>Hamilton</i>	<i>8</i>	<i>18.6%</i>	<i>16</i>	<i>37.2%</i>	<i>19</i>	<i>44.2%</i>	<i>0</i>	<i>0.0%</i>	<i>6</i>	<i>49</i>	<i>6.4%</i>
<i>Sudbury</i>	<i>1</i>	<i>20.0%</i>	<i>0</i>	<i>0.0%</i>	<i>4</i>	<i>80.0%</i>	<i>0</i>	<i>0.0%</i>	<i>0</i>	<i>5</i>	<i>0.65%</i>
<i>Windsor</i>	<i>0</i>	<i>0.0%</i>	<i>6</i>	<i>42.9%</i>	<i>8</i>	<i>57.1%</i>	<i>0</i>	<i>0.0%</i>	<i>0</i>	<i>14</i>	<i>1.8%</i>
<i>Kingston</i>	<i>0</i>	<i>0.0%</i>	<i>1</i>	<i>100%</i>	<i>0</i>	<i>0.0%</i>	<i>0</i>	<i>0.0%</i>	<i>1</i>	<i>2</i>	<i>0.26%</i>
<b>Total</b>	<b>85</b>	<b>11.9%</b>	<b>421</b>	<b>59.0%</b>	<b>200</b>	<b>28.0%</b>	<b>8</b>	<b>1.1%</b>	<b>52</b>	<b>766</b>	<b>100%</b>

1 Row percent of cases with known exposure

2 Column percent of total

Data source: Dr. Lindy Samson, Ontario Region, Canadian Pediatric AIDS Research Group

**Table 3.6b Number and proportion of HIV-infected mothers giving birth in Canada <sup>1</sup> by geographic region of the reporting health institution and maternal exposure category, Ontario, 1984 to 2006**

Geographic region of the treating institution	IDU		HIV-endemic		Heterosexual		Transfusion		Unknown	Total	
	No.	% <sup>2</sup>	No.	% <sup>2</sup>	No.	% <sup>2</sup>	No.	% <sup>2</sup>	No.	No.	% <sup>3</sup>
Toronto	36	9.0%	253	63.1%	110	27.4%	2	0.50%	33	434	62.4%
Ottawa	37	23.7%	80	51.3%	36	23.1%	3	1.9%	3	159	22.9%
Other	9	10.0%	27	30.0%	53	58.9%	1	1.1%	12	102	14.7%
<i>London</i>	0	0.0%	7	23.3%	22	73.3%	1	3.3%	6	36	5.2%
<i>Hamilton</i>	8	20.0%	13	32.5%	19	47.5%	0	0.0%	5	45	6.5%
<i>Sudbury</i>	1	20.0%	0	0.0%	4	80.0%	0	0.0%	0	5	0.72%
<i>Windsor</i>	0	0.0%	6	42.9%	8	57.1%	0	0.0%	0	14	2.0%
<i>Kingston</i>	0	0.0%	1	100%	0	0.0%	0	0.0%	1	2	0.29%
<b>Total</b>	82	12.7%	360	55.6%	199	30.8%	6	0.93%	48	695	100%

1 Assumed that 44 infants with missing birthplace information were also born in Canada.

2 Row percent of cases with known exposure

3 Column percent of total

Data source: Dr. Lindy Samson, Ontario Region, Canadian Pediatric AIDS Research Group

**Table 3.7a** Number and proportion of infected children born in any country to HIV-positive mothers by geographic region of reporting health institution and maternal exposure category, Ontario, 1984 to 2006

Geographic region of the treating institution	IDU		HIV-endemic		Heterosexual		Transfusion		Unknown	Total	
	No.	% <sup>1</sup>	No.	% <sup>1</sup>	No.	% <sup>1</sup>	No.	% <sup>1</sup>	No.	No.	% <sup>2</sup>
Toronto	9	7.9%	78	68.4%	25	21.9%	2	1.8%	7	121	64.7%
Ottawa	3	7.0%	32	74.4%	6	14.0%	2	4.7%	1	44	23.5%
Other	0	0.0%	10	50.0%	9	45.0%	1	5.0%	2	22	11.8%
<i>London</i>	0	0.0%	2	25.0%	5	62.5%	1	12.5%	0	8	4.3%
<i>Hamilton</i>	0	0.0%	6	66.7%	3	33.3%	0	0.0%	2	11	5.9%
<i>Sudbury</i>	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%
<i>Windsor</i>	0	0.0%	1	50.0%	1	50.0%	0	0.0%	0	2	1.1%
<i>Kingston</i>	0	0.0%	1	100%	0	0.0%	0	0.0%	0	1	0.53%
<b>Total</b>	12	6.8%	120	67.8%	40	22.6%	5	2.8%	10	187	100%

1 Row percent of cases with known exposure

2 Column percent of Total

Data source: Dr. Lindy Samson, Ontario Region, Canadian Pediatric AIDS Research Group



**Table 3.7b Number and proportion of infected children born in Canada<sup>1</sup> to HIV-positive mothers by geographic region of reporting health institution and maternal exposure category, Ontario, 1984 to 2006**

Geographic region of the treating institution	IDU		HIV-endemic		Heterosexual		Transfusion		Unknown	Total	
	No.	% <sup>2</sup>	No.	% <sup>2</sup>	No.	% <sup>2</sup>	No.	% <sup>2</sup>	No.	No.	% <sup>3</sup>
Toronto	7	8.9%	48	60.8%	24	30.4%	0	0.0%	4	83	66.4%
Ottawa	3	13.6%	11	50.0%	6	27.3%	2	9.1%	1	23	18.4%
Other	0	0.0%	8	44.4%	9	50.0%	1	5.6%	1	19	15.2%
<i>London</i>	0	0.0%	2	25.0%	5	62.5%	1	12.5%	0	8	6.4%
<i>Hamilton</i>	0	0.0%	4	57.1%	3	42.9%	0	0.0%	1	8	6.4%
<i>Sudbury</i>	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0.0%
<i>Windsor</i>	0	0.0%	1	50.0%	1	50.0%	0	0.0%	0	2	1.6%
<i>Kingston</i>	0	0.0%	1	100%	0	0.0%	0	0.0%	0	1	0.80%
Total	10	8.4%	67	56.3%	39	32.8%	3	2.5%	6	125	100%

1 Assumed that 16 infants with missing birthplace information were also born in Canada.

2 Row percent of cases with known exposure

3 Column percent of Total

Data source: Dr. Lindy Samson, Ontario Region, Canadian Pediatric AIDS Research Group

**Table 3.8a** Number and proportion<sup>1</sup> of HIV-positive children born in any country by period of birth and maternal exposure category, Ontario, 1984 to 2006

Period of birth	Maternal Exposure Category									
	IDU		HIV-endemic		Heterosexual		Transfusion		Unknown	Total
	No.	%	No.	%	No.	%	No.	%	No.	No.
1984-86	0	0.0%	11	84.6%	1	7.7%	1	7.7%	1	14
1987-88	2	18.2%	4	36.4%	5	45.5%	0	0.0%	1	12
1989-90	2	11.1%	8	44.4%	6	33.3%	2	11.1%	4	22
1991-92	0	0.0%	19	65.5%	9	31.0%	1	3.4%	3	32
1993-94	3	9.1%	25	75.8%	5	15.2%	0	0.0%	0	33
1995-96	1	4.3%	18	78.3%	4	17.4%	0	0.0%	0	23
1997-98	1	8.3%	7	58.3%	4	33.3%	0	0.0%	0	12
1999-00	0	0.0%	9	69.2%	4	30.8%	0	0.0%	0	13
2001-02	1	6.3%	13	81.3%	1	6.3%	1	6.3%	0	16
2003-04	2	33.3%	4	66.7%	0	0.0%	0	0.0%	0	6
2005-06	0	0.0%	2	66.7%	1	33.3%	0	0.0%	1	4
<b>Total</b>	<b>12</b>	<b>6.8%</b>	<b>120</b>	<b>67.8%</b>	<b>40</b>	<b>22.6%</b>	<b>5</b>	<b>2.8%</b>	<b>10</b>	<b>187</b>

<sup>1</sup> Row percent of cases with known exposure category

Data source: Dr. Lindy Samson, Ontario Region, Canadian Pediatric AIDS Research Group

**Table 3.8b** Number and proportion<sup>1</sup> of HIV-positive children born in Canada<sup>2</sup> by period of birth and maternal exposure category, Ontario, 1984 to 2006

Period of birth	Maternal Exposure Category									
	IDU		HIV-endemic		Heterosexual		Transfusion		Unknown	Total
	No.	%	No.	%	No.	%	No.	%	No.	No.
1984-86	0	0.0%	5	71.4%	1	14.3%	1	14.3%	1	8
1987-88	2	22.2%	2	22.2%	5	55.6%	0	0.0%	1	10
1989-90	2	13.3%	6	40.0%	6	40.0%	1	6.7%	1	16
1991-92	0	0.0%	3	47.1%	8	47.1%	1	5.9%	2	19
1993-94	3	15.0%	12	60.0%	5	25.0%	0	0.0%	0	20
1995-96	1	5.6%	13	72.2%	4	22.2%	0	0.0%	0	18
1997-98	1	14.3%	2	28.6%	4	57.1%	0	0.0%	0	7
1999-00	0	0.0%	7	63.6%	4	36.4%	0	0.0%	0	11
2001-02	0	0.0%	7	87.5%	1	12.5%	0	0.0%	0	8
2003-04	1	25.0%	3	75.0%	0	0.0%	0	0.0%	0	4
2005-06	0	0.0%	2	66.7%	1	33.3%	0	0.0%	1	4
<b>Total</b>	10	8.4%	67	56.3%	39	32.8%	3	2.5%	6	125

1 Row percent of cases with known exposure category

2 Assumed that 16 infants with missing birthplace information were also born in Canada.

Data source: Dr. Lindy Samson, Ontario Region, Canadian Pediatric AIDS Research Group

**Table 3.9** Number and proportion of HIV infected women giving birth in Canada<sup>1</sup> by maternal exposure category, antiretroviral prophylaxis during pregnancy, delivery or to the infant<sup>2</sup> and HIV status of infant, Ontario, July 1994 to December 2006

Maternal Exposure category	Prophylaxis during pregnancy, delivery or to the newborn	HIV status of infant						
		Infected	% <sup>3</sup>	Not infected	% <sup>3</sup>	Unknown	Total	% <sup>4</sup>
IDU	No	3	23.1%	10	76.9%	0	13	22.0%
	Yes	1	2.3%	42	97.7%	3	46	78.0%
	Unknown	0	--	0	--	0	0	--
	<b>Sub-total</b>	4	7.1%	52	92.9%	3	59	10.4%
HIV-endemic	No	33	70.2%	14	29.8%	1	48	15.2%
	Yes	4	1.5%	257	98.5%	7	268	84.8%
	Unknown	1	33.3%	2	66.7%	1	4	--
	<b>Sub-total</b>	38	12.2%	273	87.8%	9	320	56.3%
Heterosexual	No	12	70.6%	5	29.4%	0	17	11.7%
	Yes	3	2.5%	115	97.5%	10	128	88.3%
	Unknown	2	100%	0	0.0%	0	2	--
	<b>Sub-total</b>	17	12.4%	120	87.6%	10	147	25.9%
Transfusion	No	0	0.0%	1	100%	0	1	33.3%
	Yes	0	0.0%	2	100%	0	2	66.7%
	Unknown	0	--	0	--	0	0	--
	<b>Sub-total</b>	0	0.0%	3	100%	0	3	0.53%
Unknown	No	0	0.0%	2	100%	4	6	15.4%
	Yes	1	3.1%	31	96.9%	1	33	84.6%
	Unknown	0	--	0	--	0	0	--
	<b>Sub-total</b>	1	2.9%	33	97.1%	5	39	6.9%
Total	No	48	60.0%	32	40.0%	5	85	15.1%
	Yes	9	2.0%	447	98.0%	21	477	84.9%
	Unknown	3	60.0%	2	40.0%	1	6	--
<b>Total</b>		60	11.1%	481	88.9%	27	568	100%

1 Only cases born in Canada (Assumed that 14 infants with missing birthplace information were also born in Canada)

2 Therapy during pregnancy only, 17  
during delivery only, 1  
to the newborn only, 29  
during pregnancy and delivery, 3  
during pregnancy and to the newborn, 201  
during delivery and to the newborn, 4  
during pregnancy, delivery and to the newborn, 222

3 Row percent of known cases

4 Column percent of known cases in each exposure category, column percent of sub-total

Data source: Dr. Lindy Samson, Ontario region, Canadian Pediatric AIDS Research Group

**Table 3.10 Number of HIV-positive women given birth in Canada<sup>1</sup> by year of delivery, antiretroviral prophylaxis received during pregnancy, delivery or to the infant and HIV status of infant, Ontario, July 1994 to December 2006**

Year of delivery	Therapy received					No therapy received					Total <sup>2</sup>			
	Infected	Not infected	Unk.	Total	% <sup>3</sup>	Infected	Not infected	Unk.	Total	% <sup>3</sup>	Infected	Not infected	Unk.	Total
Jul-Dec 1994	1	6	1	8	40.0%	7	5	0	12	60.0%	8	11	1	20
1995	1	18	0	19	52.8%	9	8	0	17	47.2%	10	26	0	36
1996	0	18	2	20	62.5%	8	4	0	12	37.5%	8	22	2	32
1997	0	8	1	9	69.2%	1	3	0	4	30.8%	1	11	1	13
1998	1	28	0	29	78.4%	4	3	1	8	21.6%	5	31	1	37
1999	1	24	0	25	69.4%	8	3	0	11	30.6%	9	27	0	36
2000	0	28	0	28	90.3%	2	1	0	3	9.7%	2	29	0	31
2001	1	43	0	44	89.8%	4	1	0	5	10.2%	5	44	0	49
2002	0	45	0	45	95.7%	2	0	0	2	4.3%	2	45	0	47
2003	0	56	2	58	93.5%	2	1	1	4	6.5%	2	57	3	62
2004	2	60	0	62	95.4%	0	1	2	3	4.6%	2	61	2	65
2005	0	54	2	56	93.3%	1	2	1	4	6.7%	1	56	3	60
2006	2	59	13	74	100%	0	0	0	0	0.0%	2	59	13	74
<b>Total</b>	<b>9</b>	<b>447</b>	<b>21</b>	<b>477</b>	<b>84.9%</b>	<b>48</b>	<b>32</b>	<b>5</b>	<b>85</b>	<b>15.1%</b>	<b>57</b>	<b>479</b>	<b>26</b>	<b>562</b>

1 Only cases born in Canada (Assumed that 14 infants with missing birthplace information were also born in Canada)

2 Six cases with unknown treatments were not included (three HIV+ cases, two HIV- cases and one with unknown HIV status)

3 Row percent of cases that received therapy or not

Data source: Dr. Lindy Samson, Ontario region, Canadian Pediatric AIDS Research Group

**Table 4.1     Number of HIV-related deaths and mortality rate per 100,000  
by year of death and sex, Ontario, 1987 to 2005**

Year	Males		Females		Total	
	No.	Rate	No.	Rate	No.	Rate
1987	203	4.3	10	0.21	213	2.2
1988	245	5.0	8	0.16	253	2.6
1989	313	6.3	15	0.29	328	3.2
1990	359	7.1	14	0.27	373	3.6
1991	482	9.4	22	0.42	504	4.8
1992	555	10.6	26	0.49	581	5.5
1993	599	11.4	24	0.44	623	5.8
1994	563	10.6	40	0.73	603	5.6
1995	654	12.1	37	0.67	691	6.3
1996	454	8.3	30	0.53	484	4.4
1997	201	3.6	27	0.47	228	2.0
1998	151	2.7	25	0.43	176	1.5
1999	130	2.3	27	0.46	157	1.4
2000	157	2.7	20	0.34	177	1.5
2001	141	2.4	20	0.33	161	1.4
2002	116	1.9	18	0.29	134	1.1
2003	144	2.4	24	0.39	168	1.4
2004	131	2.1	23	0.37	154	1.2
2005	134	2.2	20	0.31	154	1.2
<b>Total</b>	<b>5,732</b>	<b>5.5</b>	<b>430</b>	<b>0.40</b>	<b>6,162</b>	<b>2.9</b>

Data sources: Vital Statistics, Registrar-General, Ontario  
Statistics Canada (population estimates)



**Table 4.2** Number and proportion<sup>1</sup> of HIV-related deaths by age at death and sex, Ontario, 1987 to 2005

Age group	Males		Females		Total	
	No.	%	No.	%	No.	%
< 1	8	0.14%	4	0.93%	12	0.19%
1-4	8	0.14%	8	1.9%	16	0.26%
5-9	3	0.05%	4	0.93%	7	0.11%
10-14	6	0.10%	3	0.70%	9	0.15%
15-19	8	0.14%	2	0.47%	10	0.16%
20-24	56	0.98%	8	1.9%	64	1.0%
25-29	466	8.1%	47	10.9%	513	8.3%
30-34	1,047	18.3%	80	18.6%	1,127	18.3%
35-39	1,221	21.3%	85	19.8%	1,306	21.2%
40-44	1,168	20.4%	66	15.3%	1,234	20.0%
45-49	789	13.8%	39	9.1%	828	13.4%
50-54	430	7.5%	25	5.8%	455	7.4%
55-59	249	4.3%	17	4.0%	266	4.3%
60-64	145	2.5%	16	3.7%	161	2.6%
65-69	77	1.3%	13	3.0%	90	1.5%
70+	51	0.89%	13	3.0%	64	1.0%
<b>Total</b>	<b>5,732</b>	<b>100%</b>	<b>430</b>	<b>100%</b>	<b>6,162</b>	<b>100%</b>

1. Column percent of cases

Data source: Vital Statistics, Registrar-General, Ontario

**Table 4.3** Number and proportion<sup>1</sup> of HIV-related deaths by health region and sex, Ontario, 1987 to 2005

Health region	Males		Females		Total	
	No.	%	No.	%	No.	%
Northern	163	2.8%	22	5.1%	185	3.0%
Ottawa	439	7.7%	60	14.0%	499	8.1%
Eastern, other	177	3.1%	20	4.7%	197	3.2%
Toronto	3,322	58.0%	164	38.1%	3,486	56.6%
Central East, other	536	9.4%	67	15.6%	603	9.8%
Central West	509	8.9%	53	12.3%	562	9.1%
Southwest	465	8.1%	36	8.4%	501	8.1%
Unknown	121	2.1%	8	1.9%	129	2.1%
<b>Total</b>	<b>5,732</b>	<b>100%</b>	<b>430</b>	<b>100%</b>	<b>6,162</b>	<b>100%</b>

1. Column percent of cases with known health region

Data source: Vital Statistics, Registrar-General, Ontario

**Table 4.4 Number and proportion<sup>1</sup> of HIV-related deaths by year of death, sex and country of birth<sup>2</sup> (HIV-endemic/non HIV-endemic), Ontario, 1987 to 2005**

Year	Males					Females					Both sexes				
	HIV-endemic		Non HIV-endemic		Subtotal	HIV-endemic		Non HIV-endemic		Subtotal	HIV-endemic		Non HIV-endemic		Total
	No.	%	No.	%		No.	%	No.	%		No.	%	No.	%	
1987	14	6.9%	189	93.1%	203	4	40.0%	6	60.0%	10	18	8.5%	195	91.5%	213
1988	7	2.9%	236	97.1%	243	1	12.5%	7	87.5%	8	8	3.2%	243	96.8%	251
1989	16	5.2%	294	94.8%	310	4	26.7%	11	73.3%	15	20	6.2%	305	93.8%	325
1990	12	3.4%	344	96.6%	356	4	30.8%	9	69.2%	13	16	4.3%	353	95.7%	369
1991	17	3.6%	460	96.4%	477	4	18.2%	18	81.8%	22	21	4.2%	478	95.8%	499
1992	27	4.9%	527	95.1%	554	5	19.2%	21	80.8%	26	32	5.5%	548	94.5%	580
1993	30	5.0%	566	95.0%	596	5	20.8%	19	79.2%	24	35	5.6%	585	94.4%	620
1994	40	7.1%	521	92.9%	561	4	10.0%	36	90.0%	40	44	7.3%	557	92.7%	601
1995	40	6.2%	610	93.8%	650	8	21.6%	29	78.4%	37	48	7.0%	639	93.0%	687
1996	35	7.7%	418	92.3%	453	9	31.0%	20	69.0%	29	44	9.1%	438	90.9%	482
1997	15	7.5%	184	92.5%	199	4	14.8%	23	85.2%	27	19	8.4%	207	91.6%	226
1998	9	6.0%	140	94.0%	149	15	60.0%	10	40.0%	25	24	13.8%	150	86.2%	174
1999	11	8.6%	117	91.4%	128	6	23.1%	20	76.9%	26	17	11.0%	137	89.0%	154
2000	18	11.5%	138	88.5%	156	5	25.0%	15	75.0%	20	23	13.1%	153	86.9%	176
2001	13	9.3%	127	90.7%	140	5	25.0%	15	75.0%	20	18	11.3%	142	88.8%	160
2002	11	9.5%	105	90.5%	116	3	16.7%	15	83.3%	18	14	10.4%	120	89.6%	134
2003	19	13.4%	123	86.6%	142	8	33.3%	16	66.7%	24	27	16.3%	139	83.7%	166
2004	16	12.6%	111	87.4%	127	6	26.1%	17	73.9%	23	22	14.7%	128	85.3%	150
2005	15	11.5%	116	88.5%	131	8	42.1%	11	57.9%	19	23	15.3%	127	84.7%	150
<b>Total</b>	365	6.4%	5,326	93.6%	5,691	108	25.4%	318	74.6%	426	473	7.7%	5,644	92.3%	6,117

1. Sex-specific row percent of deaths that year

2. Excludes 45 deaths (41 males and 4 females) for which country of birth was unknown

Data source: Vital Statistics, Registrar-General, Ontario

**Table 4.5** Number and proportion<sup>1</sup> of HIV-related deaths by year of death and region of birth (Caribbean, sub-Saharan Africa, non HIV-endemic), Ontario, 1987 to 2005

Year	Caribbean		sub-Saharan Africa		Non HIV-endemic		Total
	No.	%	No.	%	No.	%	No.
1987	15	7.0%	3	1.4%	195	91.5%	213
1988	5	2.0%	3	1.2%	245	96.8%	253
1989	12	3.7%	8	2.4%	308	93.9%	328
1990	12	3.2%	4	1.1%	357	95.7%	373
1991	19	3.8%	2	0.4%	483	95.8%	504
1992	25	4.3%	7	1.2%	549	94.5%	581
1993	22	3.5%	13	2.1%	588	94.4%	623
1994	33	5.5%	11	1.8%	559	92.7%	603
1995	32	4.6%	16	2.3%	643	93.1%	691
1996	28	5.8%	16	3.3%	440	90.9%	484
1997	15	6.6%	4	1.8%	209	91.7%	228
1998	14	8.0%	10	5.7%	152	86.4%	176
1999	12	7.6%	5	3.2%	140	89.2%	157
2000	9	5.1%	14	7.9%	154	87.0%	177
2001	9	5.6%	9	5.6%	143	88.8%	161
2002	7	5.2%	7	5.2%	120	89.6%	134
2003	14	8.3%	13	7.7%	141	83.9%	168
2004	10	6.5%	12	7.8%	132	85.7%	154
2005	7	4.5%	16	10.4%	131	85.1%	154
<b>Total</b>	<b>300</b>	<b>4.9%</b>	<b>173</b>	<b>2.8%</b>	<b>5,689</b>	<b>92.3%</b>	<b>6,162</b>

1. Row percent

2. Includes 45 deaths for which country of birth was unknown

Data source: Vital Statistics, Registrar-General, Ontario

**Table 5.1 Number of HIV tests and HIV incidence rate (per 100 person-years) (calculated<sup>1</sup>) by year for selected exposure categories, Laboratory Enhancement Study, Ontario, 2001 to 2006**

	MSM		MSM-IDU		IDU		Heterosexual	
	Number of tests	Calculated incidence (per 100 py)	Number of tests	Calculated incidence (per 100 py)	Number of tests	Calculated incidence (per 100 py)	Number of tests	Calculated incidence (per 100 py)
2001	14,797	1.75	984	1.68	15,033	0.22	208,541	0.017
2002	15,980	1.79	635	2.47	15,430	0.11	257,786	0.017
2003	16,400	1.71	629	2.67	15,752	0.24	266,374	0.026
2004	18,384	1.88	637	3.07	16,249	0.28	289,035	0.031
2005	19,490	1.81	636	3.88	16,720	0.29	306,234	0.021
2006	14,619	1.75	449	5.55	12,972	0.18	244,119	0.017
Total	99,669	1.79	3,970	2.98	92,156	0.22	1,572,089	0.022

1 HIV incidence based on the detuned assay

Legend: MSM=men who have sex with men, IDU= injection drug user, MSM-IDU=men who have sex with men and use injection drugs

Data sources: Laboratory Enhancement Study, HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 5.2 HIV incidence rate (per 100 person-years) (calculated<sup>1</sup> and adjusted<sup>2</sup>) by year for selected exposure categories, Laboratory Enhancement Study, Ontario, 2001 to 2006**

	MSM		MSM-IDU		IDU		Heterosexual	
	Calculated (per 100 py)	Adjusted	Calculated (per 100 py)	Adjusted	Calculated (per 100 py)	Adjusted	Calculated (per 100 py)	Adjusted
2001	1.75	1.08	1.68	1.80	0.22	0.22	0.017	0.015
2002	1.79	1.51	2.47	1.43	0.11	0.13	0.017	0.015
2003	1.71	0.98	2.67	1.74	0.24	0.18	0.026	0.019
2004	1.88	1.19	3.07	1.69	0.28	0.19	0.031	0.022
2005	1.81	1.19	3.88	2.86	0.29	0.19	0.021	0.014
2006	1.75	1.14	5.55	3.69	0.18	0.11	0.017	0.017
Total	1.79	1.19	2.98	2.09	0.22	0.18	0.022	0.017

1 HIV incidence based on the detuned assay

2 Adjusted for testing bias (seroconversion effect); see Method, Section 2.5

Legend: MSM=men who have sex with men, IDU=injection drug user, MSM-IDU=men who have sex with men and use injection drugs

Data sources: Laboratory Enhancement Study, HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care



**Table 5.3 HIV incidence rate (per 100 person-years) (calculated<sup>1</sup> and adjusted<sup>2</sup>) among MSM by year and health region, Ontario, 2001 to 2006**

	Toronto		Ottawa		Ontario, other <sup>3</sup>	
	Calculated (per 100 py)	Adjusted	Calculated (per 100 py)	Adjusted	Calculated (per 100 py)	Adjusted
2001	2.32	1.50	2.10	0.86	0.81	0.57
2002	2.37	1.91	2.75	2.44	0.61	0.61
2003	2.19	1.25	3.13	1.74	0.60	0.35
2004	2.29	1.40	3.53	1.97	0.89	0.73
2005	2.40	1.56	1.67	1.05	1.02	0.73
2006	2.28	1.34	2.77	1.69	0.85	0.76
Total	2.31	1.50	2.61	1.56	0.81	0.63

1 HIV incidence based on the detuned assay

2 Adjusted for testing bias (seroconversion effect); see Method, Section 2.5

3 Rest of Ontario, i.e. other than Toronto and Ottawa

Legend: MSM=men who have sex with men

Data sources: Laboratory Enhancement Study, HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 5.4 HIV incidence rate (per 100 person-years) (calculated<sup>1</sup> and adjusted<sup>2</sup>) among MSM-IDU by year and health region, Ontario, 2001 to 2006**

	Toronto		Ottawa		Ontario, other <sup>3</sup>	
	Calculated (per 100 py)	Adjusted	Calculated (per 100 py)	Adjusted	Calculated (per 100 py)	Adjusted
2001	6.30	4.36	0.59	0.37	0.40	0.82
2002	4.40	2.36	3.33	3.42	1.08	0.60
2003	4.09	1.54	16.71	19.4	0.46	0.31
2004	5.26	2.86	11.18	4.23	0.75	0.67
2005	5.11	4.51	9.05	4.03	2.39	1.56
2006	9.16	5.18	8.61	5.30	2.59	2.45
Total	5.53	3.35	4.04	2.89	1.15	1.15

1 HIV incidence based on the detuned assay

2 Adjusted for testing bias (seroconversion effect); see Method, Section 2.5

3 Rest of Ontario, i.e. other than Toronto and Ottawa

Legend: MSM-IDU=men who have sex with men and use injection drugs

Data sources: Laboratory Enhancement Study, HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 5.5 HIV incidence rate (per 100 person-years) (calculated<sup>1</sup> and adjusted<sup>2</sup>) among IDU by year and health region, Ontario, 2001 to 2006**

	Toronto		Ottawa		Ontario, other <sup>3</sup>	
	Calculated (per 100 py)	Adjusted	Calculated (per 100 py)	Adjusted	Calculated (per 100 py)	Adjusted
2001	0.13	0.16	0.42	0.37	0.21	0.19
2002	0.05	0.09	0.21	0.22	0.12	0.13
2003	0.14	0.09	0.76	0.71	0.19	0.11
2004	0.37	0.10	0.38	0.31	0.20	0.20
2005	0.31	0.15	0.40	0.18	0.25	0.20
2006	0.10	0.07	0.09	0.07	0.24	0.15
Total	0.19	0.12	0.39	0.35	0.20	0.17

1 HIV incidence based on the detuned assay

2 Adjusted for testing bias (seroconversion effect); see Method, Section 2.5

3 Rest of Ontario, i.e. other than Toronto and Ottawa

Legend: IDU= injection drug user

Data sources: Laboratory Enhancement Study, HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 5.6 HIV incidence rate (per 100 person-years) (calculated<sup>1</sup> and adjusted<sup>2</sup>) among other persons<sup>3</sup> infected through heterosexual contact by year and health region, Ontario, 2001 to 2006**

	Toronto		Ottawa		Ontario, other <sup>4</sup>	
	Calculated (per 100 py)	Adjusted	Calculated (per 100 py)	Adjusted	Calculated (per 100 py)	Adjusted
2001	0.029	0.021	0.017	0.018	0.007	0.008
2002	0.025	0.019	0.020	0.020	0.009	0.009
2003	0.031	0.025	0.036	0.022	0.018	0.013
2004	0.033	0.029	0.013	0.008	0.033	0.018
2005	0.021	0.015	0.027	0.016	0.018	0.010
2006	0.022	0.026	0.011	0.008	0.013	0.009
Total	0.027	0.023	0.022	0.015	0.017	0.012

1 HIV incidence based on the detuned assay

2 Adjusted for testing bias (seroconversion effect); see Method, Section 2.5

3 Excludes persons from HIV-endemic countries

4 Rest of Ontario, i.e. other than Toronto and Ottawa

Data sources: Laboratory Enhancement Study, HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table 6.1 Modeled estimates of incidence, cumulative incidence and prevalence of HIV infection, HIV diagnoses, AIDS incidence and AIDS-related mortality, Ontario, 1977 to 2006**

Year	HIV incidence number	HIV cumulative incidence	HIV prevalence	HIV diagnoses	HIV diagnoses cumulative	HIV infected undiagnosed	HIV infections diagnosed	HIV diagnoses prevalence	AIDS incidence	AIDS cumulative incidence	AIDS prevalence	HIV-related mortality annual	Other-cause mortality annual	Total HIV-related mortality annual	HIV-related mortality cumulative	Total mortality cumulative
1977	81	81	81	0	0	81	0.0%	0	0	0	0	0	0	0	0	0
1978	166	247	247	0	0	247	0.0%	0	0	0	0	0	0	0	0	1
1979	294	541	541	0	0	541	0.0%	0	0	0	0	0	1	1	0	2
1980	444	985	985	0	0	985	0.0%	0	0	0	0	0	2	2	0	3
1981	723	1,708	1,705	2	2	1,705	0.10%	2	2	2	2	1	3	4	1	7
1982	1,212	2,920	2,912	8	10	2,910	0.22%	6	8	10	7	3	6	8	4	15
1983	1,394	4,314	4,292	23	33	4,281	0.46%	20	23	33	20	9	10	19	13	34
1984	1,898	6,212	6,156	66	100	6,113	0.94%	58	66	100	59	28	16	42	41	77
1985	1,742	7,954	7,806	435	535	7,419	5.1%	400	180	279	161	77	24	101	118	178
1986	1,461	9,415	9,087	1,242	1,777	7,638	16.0%	1,450	293	572	293	162	32	194	280	372
1987	1,196	10,611	9,985	1,409	3,186	7,424	25.7%	2,561	460	1,032	474	278	35	313	558	685
1988	1,050	11,661	10,653	1,311	4,498	7,163	32.8%	3,491	509	1,541	622	361	38	399	919	1,084
1989	1,061	12,722	11,320	1,552	6,050	6,672	41.1%	4,649	611	2,152	860	373	40	413	1,292	1,497
1990	1,115	13,837	11,983	1,885	7,935	5,902	50.8%	6,083	724	2,876	1,156	428	42	471	1,720	1,968
1991	1,116	14,954	12,611	1,671	9,606	5,348	57.6%	7,266	723	3,599	1,415	464	45	508	2,184	2,476
1992	1,104	16,058	13,130	1,654	11,260	4,798	63.5%	8,335	836	4,434	1,691	559	47	606	2,743	3,082
1993	1,158	17,217	13,615	1,345	12,605	4,612	66.2%	9,007	835	5,269	1,881	645	50	695	3,388	3,777
1994	1,106	18,323	13,986	1,179	13,783	4,540	67.6%	9,452	781	6,051	1,958	705	52	757	4,093	4,534
1995	1,077	19,400	14,341	1,202	14,985	4,415	69.3%	9,933	750	6,800	2,017	690	54	744	4,783	5,278
1996	1,030	20,430	14,758	933	15,917	4,512	69.5%	10,255	527	7,327	1,965	579	55	635	5,362	5,913
1997	1,042	21,472	15,298	843	16,761	4,711	69.3%	10,597	318	7,645	1,814	469	57	526	5,831	6,439
1998	1,102	22,574	15,992	863	17,624	4,951	69.1%	11,053	284	7,929	1,724	373	59	432	6,204	6,871
1999	1,235	23,810	16,877	818	18,442	5,368	68.3%	11,523	252	8,181	1,662	314	61	375	6,518	7,246
2000	1,324	25,134	17,904	806	19,247	5,886	67.2%	12,034	189	8,370	1,592	259	63	323	6,777	7,568
2001	1,423	26,557	19,083	863	20,111	6,446	66.3%	12,657	253	8,623	1,641	204	66	270	6,982	7,839
2002	1,533	28,089	20,419	1,022	21,133	6,957	66.0%	13,486	208	8,830	1,691	157	69	226	7,139	8,065
2003	1,613	29,703	21,826	991	22,124	7,578	65.4%	14,275	245	9,075	1,772	165	72	237	7,303	8,301
2004	1,693	31,396	23,301	1,054	23,178	8,217	64.9%	15,115	236	9,311	1,832	175	75	251	7,479	8,552
2005	1,744	33,140	24,815	1,006	24,184	8,956	64.1%	15,896	254	9,565	1,900	186	79	265	7,665	8,817
2006	1,802	34,941	26,356	1,032	25,216	9,836	62.8%	16,561	429	9,994	2,113	216	83	298	7,880	9,116

**Table 6.1a Modeled estimates of incidence, cumulative incidence and prevalence of HIV infection, HIV diagnoses, AIDS incidence and AIDS-related mortality among MSM, Ontario, 1977 to 2006**

Year	HIV incidence rate	HIV incidence number	HIV cumulative incidence	HIV prevalence	HIV prevalence (%)	HIV diagnoses	HIV diagnoses cumulative	HIV infected undiagnosed	HIV infections diagnosed	HIV diagnoses prevalence	AIDS incidence	AIDS cumulative incidence	AIDS prevalence	HIV-related mortality annual	HIV-related mortality cumulative
1977	0.13%	77	77	77	0.13%	0	0	77	0.0%	0	0	0	0	0	0
1978	0.25%	156	234	234	0.38%	0	0	234	0.0%	0	0	0	0	0	0
1979	0.45%	275	509	509	0.82%	0	0	509	0.0%	0	0	0	0	0	0
1980	0.64%	395	904	904	1.4%	0	0	904	0.0%	0	0	0	0	0	0
1981	1.0%	633	1,537	1,537	2.4%	1	1	1,536	0.05%	1	1	1	1	0	0
1982	1.7%	1,032	2,569	2,567	4.0%	7	8	2,561	0.21%	5	7	8	5	2	2
1983	1.8%	1,108	3,677	3,668	5.7%	17	24	3,653	0.41%	15	17	24	15	7	9
1984	2.5%	1,580	5,257	5,225	7.9%	57	81	5,176	0.94%	49	57	81	49	22	32
1985	2.4%	1,446	6,703	6,604	9.9%	394	475	6,228	5.7%	376	160	241	142	67	99
1986	2.0%	1,243	7,946	7,705	11.4%	1,086	1,561	6,385	17.1%	1,320	258	499	258	142	241
1987	1.5%	938	8,884	8,405	12.1%	1,202	2,763	6,121	27.2%	2,283	380	879	399	239	480
1988	1.2%	752	9,636	8,852	12.5%	1,047	3,810	5,826	34.2%	3,026	428	1,307	522	305	784
1989	1.1%	729	10,365	9,269	12.8%	1,237	5,047	5,318	42.6%	3,951	501	1,807	711	312	1,096
1990	1.1%	698	11,063	9,619	13.0%	1,475	6,523	4,541	52.8%	5,078	568	2,375	931	349	1,444
1991	1.0%	663	11,726	9,913	13.3%	1,266	7,789	3,938	60.3%	5,975	560	2,935	1,122	369	1,814
1992	0.89%	589	12,315	10,067	13.2%	1,138	8,927	3,388	66.3%	6,678	618	3,553	1,304	435	2,249
1993	0.83%	555	12,870	10,127	13.1%	837	9,764	3,106	69.3%	7,022	624	4,177	1,434	494	2,743
1994	0.76%	517	13,387	10,110	13.0%	652	10,416	2,971	70.6%	7,139	567	4,744	1,467	534	3,276
1995	0.73%	494	13,881	10,090	12.9%	692	11,108	2,774	72.5%	7,316	506	5,250	1,458	515	3,792
1996	0.66%	458	14,339	10,126	12.8%	523	11,630	2,709	73.3%	7,417	316	5,565	1,352	422	4,213
1997	0.69%	482	14,821	10,274	12.8%	449	12,079	2,742	73.3%	7,532	189	5,754	1,207	333	4,547
1998	0.74%	524	15,346	10,540	13.0%	431	12,510	2,835	73.1%	7,704	151	5,905	1,099	259	4,806
1999	0.83%	593	15,939	10,922	13.3%	400	12,910	3,029	72.3%	7,893	143	6,048	1,031	211	5,017
2000	0.89%	646	16,585	11,399	13.7%	412	13,322	3,263	71.4%	8,136	88	6,136	950	169	5,186
2001	0.95%	702	17,287	11,978	14.1%	386	13,708	3,579	70.1%	8,399	106	6,242	933	122	5,309
2002	1.0%	758	18,045	12,652	14.6%	493	14,200	3,844	69.6%	8,808	85	6,327	935	84	5,392
2003	1.1%	800	18,845	13,367	15.3%	444	14,644	4,201	68.6%	9,166	95	6,422	944	86	5,478
2004	1.1%	834	19,679	14,111	15.9%	535	15,179	4,500	68.1%	9,612	95	6,517	950	89	5,567
2005	1.1%	856	20,535	14,874	16.6%	523	15,702	4,833	67.5%	10,041	103	6,621	960	94	5,661
2006	1.2%	888	21,423	15,656	17.3%	491	16,193	5,230	66.6%	10,426	181	6,802	1,035	106	5,767



**Table 6.1b Modeled estimates of incidence, cumulative incidence and prevalence of HIV infection, HIV diagnoses, AIDS incidence and AIDS-related mortality among MSM-IDU, Ontario, 1977 to 2006**

Year	HIV incidence rate	HIV incidence number	HIV cumulative incidence	HIV prevalence	HIV prevalence (%)	HIV diagnoses	HIV diagnoses cumulative	HIV infected undiagnosed	HIV infections diagnosed	HIV diagnoses prevalence	AIDS incidence	AIDS cumulative incidence	AIDS prevalence	HIV-related mortality annual	HIV-related mortality cumulative
1977	0.08%	1	1	1	0.08%	0	0	1	0.0%	0	0	0	0	0	0
1978	0.27%	5	6	6	0.34%	0	0	6	0.0%	0	0	0	0	0	0
1979	0.80%	15	21	21	1.1%	0	0	21	0.0%	0	0	0	0	0	0
1980	1.6%	30	51	50	2.7%	0	0	51	0.0%	0	0	0	0	0	0
1981	2.1%	39	90	89	4.7%	0	0	90	0.0%	0	0	0	0	0	0
1982	3.2%	58	148	145	7.6%	0	0	148	0.0%	0	0	0	0	0	0
1983	4.0%	71	219	214	11.0%	4	4	216	1.4%	3	4	4	3	1	1
1984	5.3%	93	313	301	15.3%	5	9	304	1.7%	5	5	9	5	3	4
1985	4.0%	68	380	360	18.0%	19	28	352	2.2%	8	6	15	7	4	8
1986	3.2%	53	433	401	19.7%	57	85	348	13.1%	53	11	26	11	7	15
1987	2.7%	44	478	426	20.5%	57	142	335	21.3%	91	25	51	24	13	28
1988	2.4%	40	518	443	20.9%	59	201	317	28.4%	126	24	75	30	17	45
1989	2.4%	41	559	460	21.2%	74	275	285	38.1%	175	27	102	39	17	62
1990	2.3%	40	599	474	21.4%	79	354	245	48.3%	229	28	129	48	19	81
1991	2.3%	40	639	487	21.7%	66	420	219	55.1%	269	29	159	58	19	100
1992	2.3%	40	679	496	21.7%	84	504	175	64.6%	321	43	202	77	25	125
1993	2.1%	39	718	497	21.5%	75	579	138	72.1%	358	43	245	90	30	156
1994	1.9%	34	752	487	20.9%	68	647	104	78.6%	383	50	295	104	36	191
1995	1.6%	30	781	473	20.1%	66	714	68	85.6%	405	47	343	114	37	228
1996	1.5%	29	810	464	19.5%	40	753	57	87.7%	407	27	370	110	31	259
1997	2.0%	39	849	471	19.6%	30	783	65	86.1%	406	9	379	96	24	283
1998	2.1%	42	891	488	20.0%	40	823	68	86.1%	420	8	386	85	18	302
1999	2.5%	50	941	514	20.8%	30	853	87	83.1%	427	9	396	78	16	318
2000	2.0%	40	980	533	21.3%	34	887	93	82.6%	440	7	402	72	13	331
2001	1.9%	37	1,017	553	21.7%	26	913	104	81.1%	448	8	411	70	10	340
2002	2.1%	42	1,060	580	22.4%	21	934	125	78.4%	455	4	415	68	6	347
2003	2.3%	47	1,107	613	23.3%	23	957	149	75.6%	463	7	422	69	6	353
2004	2.5%	50	1,157	647	24.3%	31	989	169	73.9%	478	9	431	71	7	360
2005	2.5%	50	1,208	680	25.3%	18	1,007	201	70.5%	480	7	438	71	7	367
2006	2.5%	50	1,258	712	26.2%	21	1,028	230	67.7%	483	12	451	75	8	375

**Table 6.1c Modeled estimates of incidence, cumulative incidence and prevalence of HIV infection, HIV diagnoses, AIDS incidence and AIDS-related mortality among IDU, Ontario, 1977 to 2006**

Year	HIV incidence rate	HIV incidence number	HIV cumulative incidence	HIV prevalence	HIV prevalence (%)	HIV diagnoses	HIV diagnoses cumulative	HIV infected undiagnosed	HIV infections diagnosed	HIV diagnoses prevalence	AIDS incidence	AIDS cumulative incidence	AIDS prevalence	HIV-related mortality annual	HIV-related mortality cumulative
1977	0.0%	0	0	0	0.0%	0	0	0	--	0	0	0	0	0	0
1978	0.0%	0	0	0	0.0%	0	0	0	--	0	0	0	0	0	0
1979	0.0%	0	0	0	0.0%	0	0	0	--	0	0	0	0	0	0
1980	0.0%	0	0	0	0.0%	0	0	0	--	0	0	0	0	0	0
1981	0.01%	3	3	3	0.0%	0	0	3	0.0%	0	0	0	0	0	0
1982	0.04%	12	15	15	0.05%	0	0	15	0.0%	0	0	0	0	0	0
1983	0.12%	34	49	49	0.18%	0	0	49	0.0%	0	0	0	0	0	0
1984	0.22%	62	111	111	0.39%	1	1	110	1.1%	1	1	1	1	0	0
1985	0.26%	76	187	184	0.64%	2	3	184	0.37%	1	1	3	1	1	1
1986	0.29%	83	270	263	0.90%	30	33	237	10.1%	27	3	5	3	1	3
1987	0.33%	98	367	353	1.2%	31	64	303	14.0%	49	11	16	10	4	7
1988	0.37%	113	480	453	1.5%	64	128	352	22.4%	101	10	26	13	7	14
1989	0.41%	125	605	563	1.8%	95	223	382	32.1%	181	19	45	23	9	22
1990	0.46%	145	750	686	2.2%	143	366	384	44.1%	303	25	70	36	12	35
1991	0.53%	167	916	827	2.6%	138	504	413	50.1%	414	31	101	50	16	51
1992	0.56%	179	1,096	971	3.0%	172	675	420	56.7%	551	43	144	71	22	73
1993	0.58%	188	1,284	1,118	3.4%	120	796	488	56.3%	629	36	180	80	27	100
1994	0.57%	186	1,470	1,256	3.7%	179	975	495	60.6%	761	42	222	91	31	131
1995	0.52%	168	1,638	1,372	4.1%	134	1,109	529	61.5%	843	51	274	109	33	164
1996	0.44%	144	1,782	1,466	4.3%	125	1,234	548	62.6%	918	42	316	122	30	194
1997	0.39%	128	1,910	1,546	4.5%	105	1,339	571	63.1%	975	26	342	122	26	220
1998	0.34%	114	2,024	1,614	4.6%	116	1,455	569	64.7%	1,045	30	372	129	23	243
1999	0.31%	104	2,129	1,673	4.7%	125	1,580	548	67.2%	1,125	26	398	135	21	264
2000	0.26%	91	2,219	1,720	4.8%	82	1,663	556	67.7%	1,164	24	422	140	19	283
2001	0.24%	84	2,303	1,761	4.8%	79	1,741	562	68.1%	1,199	29	451	151	17	300
2002	0.20%	70	2,374	1,789	4.8%	77	1,818	556	68.9%	1,234	28	479	164	16	315
2003	0.21%	75	2,449	1,821	4.8%	70	1,888	561	69.2%	1,260	27	506	174	17	332
2004	0.23%	84	2,533	1,860	4.9%	88	1,976	557	70.1%	1,303	31	537	187	18	350
2005	0.24%	89	2,622	1,903	4.9%	96	2,072	550	71.1%	1,353	23	560	191	19	369
2006	0.22%	82	2,704	1,935	4.9%	53	2,126	579	70.1%	1,357	40	600	210	21	390

**Table 6.1d Modeled estimates of incidence, cumulative incidence and prevalence of HIV infection, HIV diagnoses, AIDS incidence and AIDS-related mortality among persons from HIV-endemic countries, Ontario, 1977 to 2006**

Year	HIV incidence number	HIV cumulative incidence	HIV prevalence	HIV prevalence (%)	HIV diagnoses	HIV diagnoses cumulative	HIV infected undiagnosed	HIV infections diagnosed	HIV diagnoses prevalence	AIDS incidence	AIDS cumulative incidence	AIDS prevalence	HIV-related mortality annual	HIV-related mortality cumulative
1977	0	0	0	0.0%	0	0	0	0.0%	0	0	0	0	0	0
1978	0	0	0	0.0%	0	0	0	0.0%	0	0	0	0	0	0
1979	0	0	0	0.0%	0	0	0	0.0%	0	0	0	0	0	0
1980	0	0	0	0.0%	0	0	0	0.0%	0	0	0	0	0	0
1981	7	7	7	0.0%	1	1	6	15.0%	1	1	1	1	0	0
1982	8	15	14	0.01%	0	1	14	3.3%	0	0	1	0	1	1
1983	8	23	22	0.01%	1	3	20	5.6%	1	1	3	1	1	1
1984	18	42	39	0.02%	1	4	38	3.8%	1	1	4	1	1	3
1985	20	62	57	0.03%	3	7	55	4.6%	3	4	8	4	2	4
1986	28	89	81	0.04%	25	32	57	29.7%	24	8	16	8	4	8
1987	60	149	134	0.06%	34	66	83	38.2%	51	9	25	10	7	15
1988	61	210	188	0.08%	46	112	98	48.0%	90	7	32	10	7	22
1989	79	289	259	0.11%	53	165	124	52.1%	135	16	48	18	8	30
1990	114	403	363	0.14%	85	250	153	57.8%	209	24	72	32	11	41
1991	127	530	475	0.18%	118	368	162	65.9%	313	29	101	46	14	55
1992	159	689	615	0.21%	135	503	185	69.8%	430	30	131	57	19	74
1993	198	887	790	0.25%	143	646	241	69.6%	550	33	164	67	22	96
1994	167	1,054	932	0.28%	125	771	283	69.7%	649	33	196	74	26	122
1995	187	1,241	1,093	0.32%	140	912	329	69.9%	763	40	236	88	26	148
1996	208	1,449	1,273	0.36%	120	1,032	417	67.2%	856	67	303	127	28	176
1997	207	1,656	1,453	0.40%	117	1,149	507	65.1%	946	44	347	144	28	204
1998	207	1,864	1,635	0.44%	124	1,273	590	63.9%	1,045	45	392	163	25	229
1999	247	2,111	1,858	0.49%	123	1,396	715	61.5%	1,143	42	434	181	24	253
2000	291	2,402	2,126	0.55%	146	1,542	860	59.6%	1,267	26	460	184	22	275
2001	321	2,723	2,424	0.61%	206	1,749	974	59.8%	1,450	55	515	217	23	298
2002	348	3,071	2,748	0.67%	243	1,991	1,079	60.7%	1,669	52	567	245	24	323
2003	358	3,429	3,079	0.74%	258	2,250	1,179	61.7%	1,900	55	623	273	27	349
2004	377	3,806	3,427	0.80%	208	2,458	1,348	60.7%	2,079	56	678	300	29	379
2005	397	4,203	3,792	0.87%	199	2,657	1,546	59.2%	2,246	60	738	327	32	411
2006	426	4,629	4,181	0.94%	258	2,915	1,714	59.0%	2,466	86	824	375	38	449

**Table 6.1e Modeled estimates of incidence, cumulative incidence and prevalence of HIV infection, HIV diagnoses, AIDS incidence and AIDS-related mortality among persons infected through heterosexual contact, Ontario, 1977 to 2006**

Year	HIV incidence rate	HIV incidence number	HIV cumulative incidence	HIV prevalence	HIV prevalence (%)	HIV diagnoses	HIV diagnoses cumulative	HIV infected undiagnosed	HIV infections diagnosed	HIV diagnoses prevalence	AIDS incidence	AIDS cumulative incidence	AIDS prevalence	HIV-related mortality annual	HIV-related mortality cumulative
1977	0.0004%	2	2	2	0.0%	0	0	2	0.0%	0	0	0	0	0	0
1978	0.0004%	2	5	5	0.0%	0	0	5	0.0%	0	0	0	0	0	0
1979	0.0004%	2	7	7	0.0%	0	0	7	0.0%	0	0	0	0	0	0
1980	0.0007%	5	12	12	0.0%	0	0	12	0.0%	0	0	0	0	0	0
1981	0.0007%	5	17	17	0.0%	0	0	17	0.0%	0	0	0	0	0	0
1982	0.0019%	13	30	30	0.0%	1	1	29	2.8%	1	1	1	1	0	0
1983	0.0019%	13	43	42	0.01%	0	1	42	0.92%	0	0	1	0	0	1
1984	0.0037%	26	70	68	0.01%	2	3	66	2.7%	2	2	3	2	1	2
1985	0.0037%	27	96	93	0.01%	3	7	90	3.7%	3	2	6	2	2	3
1986	0.0074%	54	151	145	0.02%	4	10	140	3.8%	5	1	7	2	2	5
1987	0.0074%	55	206	196	0.03%	13	23	183	7.2%	14	12	19	10	4	9
1988	0.011%	85	291	272	0.04%	21	44	247	9.5%	26	20	39	21	9	18
1989	0.011%	87	378	345	0.04%	41	85	293	15.5%	53	34	73	41	14	32
1990	0.015%	118	496	440	0.06%	50	135	361	18.4%	81	52	124	70	23	54
1991	0.015%	120	616	531	0.07%	65	200	416	22.2%	118	43	167	85	28	82
1992	0.017%	137	753	631	0.08%	96	297	456	28.2%	178	67	234	115	36	119
1993	0.022%	179	932	762	0.09%	137	434	499	35.1%	268	75	309	143	47	166
1994	0.024%	203	1,135	909	0.11%	134	568	567	38.3%	348	66	375	155	54	220
1995	0.023%	198	1,333	1,050	0.12%	150	718	615	42.1%	442	84	459	184	55	276
1996	0.022%	190	1,523	1,189	0.14%	111	829	694	42.3%	502	65	524	198	50	326
1997	0.022%	187	1,709	1,331	0.15%	126	955	755	44.0%	586	39	563	195	43	369
1998	0.025%	215	1,924	1,507	0.17%	136	1,091	833	45.5%	686	46	610	205	36	405
1999	0.027%	240	2,165	1,712	0.19%	132	1,223	942	45.8%	785	28	638	200	33	438
2000	0.029%	257	2,422	1,938	0.22%	120	1,343	1,079	45.2%	876	38	676	209	29	467
2001	0.030%	279	2,700	2,186	0.24%	160	1,503	1,197	46.1%	1,009	52	728	234	27	494
2002	0.034%	314	3,015	2,474	0.27%	186	1,689	1,326	47.3%	1,171	38	767	249	24	518
2003	0.035%	333	3,347	2,776	0.29%	192	1,881	1,466	48.1%	1,336	59	826	281	27	545
2004	0.036%	347	3,695	3,090	0.32%	187	2,068	1,627	48.4%	1,494	44	869	295	29	574
2005	0.036%	351	4,046	3,405	0.35%	163	2,231	1,815	47.7%	1,625	59	929	323	32	606
2006	0.036%	355	4,401	3,715	0.38%	205	2,436	1,965	48.2%	1,790	104	1,033	387	40	645

**Table 6.2** Number and proportion of HIV-infected persons who have been diagnosed in Ontario as of December 2006

	HIV prevalence	HIV diagnosed	Proportion diagnosed	Number HIV undiagnosed	Proportion Ontario undiagnosed
<b>Both sexes</b>					
MSM	15,656	10,426	66.6%	5,230	53.8%
MSM-IDU	712	483	67.7%	230	2.4%
IDU	1,935	1,357	70.1%	579	5.9%
HIV-endemic	4,181	2,466	59.0%	1,714	17.6%
Heterosexual	3,715	1,790	48.2%	1,965	20.2%
Clotting factor	127	119	94.2%	7	0.08%
Transfusion	30	30	99.4%	0	0.0%
Total	26,356	16,671	63.3%	9,726	100%
<b>Male</b>					
MSM	15,656	10,426	66.6%	5,230	64.8%
MSM-IDU	712	483	67.7%	230	2.8%
IDU	1,361	930	68.3%	432	5.3%
HIV-endemic	2,542	1,246	49.0%	1,296	16.0%
Heterosexual	1,681	799	47.5%	882	10.9%
Clotting factor	124	117	94.3%	7	0.09%
Transfusion	19	19	99.4%	0	0.0%
Total	22,095	14,018	63.4%	8,076	100%
<b>Female</b>					
IDU	574	427	74.4%	147	8.9%
HIV-endemic	1,639	1,221	74.5%	418	25.3%
Heterosexual	2,034	951	46.8%	1,084	65.4%
Clotting factor	3	3	87.4%	7	0.45%
Transfusion	11	11	99.5%	0	0.0%
Total	4,261	2,612	61.3%	1,656	100%

**Table 6.3a Modeled HIV prevalence by health region and exposure category, Ontario, December 2006**

Heath region	MSM	MSM-IDU	IDU	HIV-endemic	Heterosexual	Clotting factor	Transfusion	Total <sup>1</sup>	Proportion <sup>2</sup>
Toronto	11,140	370	660	2,450	1,830	75	20	16,550	62.8%
Ottawa	1,240	100	480	770	480	10	10	3,090	11.7%
Central East, other	870	50	120	340	420	10	0	1,820	6.9%
Eastern, other	270	30	160	80	110	5	0	670	2.5%
Central West	1,030	80	210	300	320	10	0	1,940	7.4%
Southwest	920	40	110	210	320	10	0	1,610	6.1%
Northern	190	40	190	30	230	10	0	680	2.6%
<b>Total</b>	15,660	710	1,930	4,180	3,710	130	30	26,360	
<b>Proportion<sup>3</sup></b>	59.4%	2.7%	7.3%	15.9%	14.1%	0.49%	0.11%		

1 The cells may not add up to the row and column totals due to rounding

2 Column percent

3 Row percent



**Table 6.3b Modeled HIV prevalence by sex, health region and exposure category Ontario, December 2006**

	Heath Region	MSM	MSM-IDU	IDU	HIV-endemic	Heterosexual	Clotting factor	Transfusion	Total <sup>1</sup>	Proportion <sup>2</sup>
<b>Males</b>	Toronto	11,140	370	460	1,460	880	70	15	14,400	65.4%
	Ottawa	1,240	100	350	450	230	10	5	2,380	10.6%
	Central East, other	870	50	80	240	210	10	0	1,460	6.9%
	Eastern, other	270	30	120	60	40	5	0	530	2.2%
	Central West	1,030	80	160	190	110	10	0	1,580	7.4%
	Southwest	920	40	70	130	90	10	0	1,270	5.4%
	Northern	190	40	120	10	120	10	0	490	2.1%
	Total	15,660	710	1,360	2,540	1,680	125	20	22,090	100%
	Proportion <sup>3</sup>	72.2%	3.1%	5.9%	10.6%	7.4%	0.68%	0.12%		
<b>Females</b>	Toronto			200	990	950	5	5	2,160	49.8%
	Ottawa			130	320	250	0	5	710	15.8%
	Central East, other			40	100	210	0	0	350	8.7%
	Eastern, other			40	20	70	0	0	130	3.1%
	Central West			50	110	210	0	0	370	9.0%
	Southwest			40	80	230	0	0	350	8.4%
	Northern			70	20	110	0	0	190	5.3%
	Total			570	1,640	2,030	5	10	4,260	100%
	Proportion <sup>3</sup>			15.7%	32.4%	51.5%	0.14%	0.28%		

1 The cells may not add up to the row and column totals due to rounding

2 Column percent

3 Row percent

**Table 6.4 Modeled HIV incidence by sex, region and exposure category Ontario, 2006**

		MSM	MSM-I DU	IDU	HIV-end emic	Heterosexual	Clotting factor	Transfusion	Total <sup>1</sup>	Proportion <sup>2</sup>
<b>Males</b>	Toronto	620	30	20	130	90	0	0	900	65.2%
	Ottawa	100	10	15	40	30	0	0	200	14.5%
	Other	170	10	20	45	50	0	0	280	20.3%
	Total	890	50	55	215	170	0	0	1,380	100%
<b>Females</b>	Toronto			10	130	90	0	0	230	54.8%
	Ottawa			5	45	15	0	0	65	15.5%
	Other			10	35	80	0	0	125	29.8%
	Total			25	210	185	0	0	420	100%
<b>Both sexes</b>	Toronto	620	30	30	260	180	0	0	1,130	62.8%
	Ottawa	100	10	20	85	45	0	0	270	15.0%
	Other	170	10	30	80	130	0	0	400	22.2%
	Total	890	50	80	425	355	0	0	1,800	100%
	Proportion <sup>3</sup>	49.4%	2.8%	4.4%	23.6%	19.7%	0.0%	0.0%		

1 The cells may not add up to the row and column totals due to rounding

2 Column percent

3 Row percent

**Table 6.5 Modeled population at risk, HIV prevalence and incidence by health region for selected exposure categories, Ontario, 2006**

Health region	Population at risk	HIV prevalent number	HIV prevalence rate (%)	Annual HIV incident number	Annual HIV incidence rate (%)
<b>MSM</b>					
Toronto	48,100	11,140	23.2%	620	1.7%
Ottawa	10,400	1,240	11.9%	100	1.1%
Central East, other	12,100	870	7.2%	40	0.36%
Eastern, other	2,700	270	10.0%	20	0.82%
Central West	8,000	1,030	12.9%	50	0.72%
Southwest	6,500	920	14.2%	50	0.90%
Northern	3,000	190	6.3%	10	0.36%
Ontario, total	90,800	15,660	17.2%	890	1.2%
<b>MSM-IDU</b>					
Toronto	1,430	370	25.9%	28	2.7%
Ottawa	340	100	29.4%	8	3.2%
Central East, other	290	50	17.2%	3	1.3%
Eastern, other	100	30	30.0%	2	3.2%
Central West	270	80	29.6%	5	2.6%
Southwest	190	40	21.1%	3	2.0%
Northern	100	40	40.0%	1	1.3%
Ontario, total	2,720	710	26.1%	50	2.5%
<b>IDU</b>					
Toronto	16,100	660	4.1%	30	0.19%
Ottawa	3,300	480	14.5%	20	0.71%
Central East, other	6,500	120	1.8%	5	0.08%
Eastern, other	2,300	160	7.0%	5	0.23%
Central West	4,800	210	4.4%	5	0.11%
Southwest	3,900	110	2.8%	5	0.13%
Northern	2,300	190	8.3%	10	0.47%
Ontario, total	39,100	1,930	4.9%	80	0.22%
<b>HIV-endemic</b>					
Toronto	223,800	2,450	1.1%	260	0.12%
Ottawa	27,900	770	2.8%	85	0.31%
Central East, other	145,800	340	0.23%	20	0.01%
Eastern, other	2,500	80	3.2%	5	0.21%
Central West	33,500	300	0.90%	30	0.09%
Southwest	12,000	210	1.8%	20	0.17%
Northern	1,600	30	1.9%	5	0.32%
Ontario, total	447,000	4,180	0.94%	425	0.10%
<b>Heterosexual</b>					
Toronto	1,748,000	1,830	0.105%	180	0.0103%
Ottawa	602,000	480	0.080%	45	0.0075%
Central East, other	2,591,000	420	0.016%	40	0.0015%
Eastern, other	630,000	110	0.017%	15	0.0024%
Central West	1,815,000	320	0.018%	35	0.0019%
Southwest	1,200,000	320	0.027%	30	0.0025%
Northern	619,000	230	0.037%	10	0.0016%
Ontario, total	9,203,000	3,710	0.040%	355	0.0039%

**Table S-1 Number and proportion<sup>1</sup> of HIV diagnoses (adjusted<sup>2</sup>) by Local Health Integration Network (LHIN) region<sup>3</sup> and exposure category, Ontario, 1985 to 2006**

LHIN region	MSM		MSM-IDU		IDU		Clotting factor		Transfusion		HIV-endemic		HR hetero		LR hetero		MTC <sup>4</sup>		Other <sup>5</sup>		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
Erie St. Clair	360	61.0%	28	4.8%	34	5.8%	6	1.0%	17	2.9%	64	10.9%	31	5.3%	41	7.0%	0	0.0%	8	1.3%	589
South West	835	60.4%	49	3.6%	90	6.5%	64	4.6%	27	2.0%	127	9.2%	87	6.3%	80	5.8%	9	0.62%	14	1.0%	1,382
Waterloo Wellington	128	41.0%	15	4.7%	56	18.0%	1	0.25%	7	2.4%	45	14.5%	24	7.6%	31	10.0%	2	0.64%	3	1.0%	311
Hamilton Niagara Haldimand Brant	605	48.9%	71	5.8%	138	11.1%	20	1.6%	45	3.6%	141	11.4%	59	4.8%	126	10.2%	10	0.77%	23	1.8%	1,237
Central West	771	57.9%	66	5.0%	124	9.3%	10	0.72%	21	1.6%	145	10.9%	60	4.5%	105	7.9%	8	0.62%	22	1.6%	1,331
Mississauga Halton	738	55.8%	68	5.1%	126	9.5%	9	0.65%	28	2.1%	156	11.8%	58	4.4%	110	8.3%	8	0.62%	23	1.8%	1,323
Toronto Central	5,555	69.1%	292	3.6%	368	4.6%	58	0.73%	85	1.1%	849	10.6%	194	2.4%	534	6.6%	43	0.53%	55	0.68%	8,034
Central	2,893	63.3%	228	5.0%	347	7.6%	32	0.71%	56	1.2%	451	9.9%	161	3.5%	308	6.7%	24	0.53%	68	1.5%	4,568
Central East	2,791	63.2%	224	5.1%	347	7.9%	34	0.76%	53	1.2%	429	9.7%	169	3.8%	288	6.5%	23	0.52%	61	1.4%	4,418
South East	228	43.5%	24	4.5%	128	24.4%	19	3.7%	12	2.2%	45	8.6%	29	5.4%	38	7.1%	0	0.0%	2	0.46%	525
Champlain	1,502	45.9%	156	4.8%	474	14.5%	33	1.0%	99	3.0%	670	20.5%	92	2.8%	187	5.7%	24	0.74%	36	1.1%	3,272
North Simcoe Muskoka	44	56.4%	2	3.0%	8	9.8%	0	0.0%	2	2.7%	12	15.5%	5	6.1%	4	5.8%	0	0.0%	1	0.77%	77
North East	130	34.4%	10	2.5%	150	39.5%	14	3.6%	4	1.1%	8	2.2%	23	6.0%	39	10.4%	1	0.26%	0	0.0%	379
North West	54	31.0%	1	0.83%	70	40.4%	4	2.5%	1	0.58%	2	1.4%	19	10.8%	22	12.5%	0	0.0%	0	0.0%	173
<b>Total</b>	<b>16,634</b>	<b>60.2%</b>	<b>1,234</b>	<b>4.5%</b>	<b>2,459</b>	<b>8.9%</b>	<b>304</b>	<b>1.1%</b>	<b>457</b>	<b>1.7%</b>	<b>3,143</b>	<b>11.4%</b>	<b>1,010</b>	<b>3.7%</b>	<b>1,913</b>	<b>6.9%</b>	<b>152</b>	<b>0.55%</b>	<b>316</b>	<b>1.1%</b>	<b>27,621</b>

1 Row percent

2 Adjusted for unknown LHIN region, sex and exposure category (see text for more details), thus, total may differ due to rounding; the total adjusted number by exposure category was different from the number adjusted by health region, since weights of allocation of unknown exposure category for the 14 LHIN regions were the weights from seven health regions

3 LHIN derived from public health unit (PHU); the proportion of LHIN region population in 2001 census in a split PHU was applied, if the PHU is across more than one LHIN region

4 Includes only HIV-infected infants

5 Other exposure includes needle-stick, acupuncture, tattoo, etc.

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table S-1a Number and proportion<sup>1</sup> of HIV diagnoses (adjusted<sup>2</sup>) among males by Local Health Integration Network (LHIN) region<sup>3</sup> and exposure category, Ontario, 1985 to 2006**

LHIN region	MSM		MSM-IDU		IDU		Clotting factor		Transfusion		HIV-endemic		HR hetero		LR hetero		MTC <sup>4</sup>		Other <sup>5</sup>		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
Erie St. Clair	360	72.6%	28	5.7%	26	5.2%	6	1.2%	11	2.2%	31	6.2%	6	1.2%	23	4.6%	0	0.0%	6	1.1%	496
South West	835	71.6%	49	4.2%	64	5.5%	62	5.3%	14	1.2%	64	5.5%	11	0.93%	51	4.4%	6	0.47%	10	0.85%	1,166
Waterloo Wellington	128	54.1%	15	6.2%	44	18.7%	1	0.33%	5	2.1%	16	6.8%	6	2.7%	20	8.3%	1	0.42%	1	0.47%	236
Hamilton Niagara Haldimand Brant	605	62.9%	71	7.4%	92	9.5%	17	1.8%	29	3.0%	60	6.3%	10	1.0%	61	6.4%	5	0.52%	12	1.2%	963
Central West	771	68.4%	66	5.9%	97	8.6%	9	0.76%	11	1.0%	75	6.6%	21	1.9%	63	5.6%	3	0.27%	10	0.86%	1,127
Mississauga Halton	738	66.8%	68	6.1%	98	8.9%	8	0.72%	14	1.3%	82	7.4%	20	1.8%	65	5.9%	3	0.25%	10	0.91%	1,105
Toronto Central	5,555	78.5%	292	4.1%	261	3.7%	51	0.72%	46	0.66%	404	5.7%	80	1.1%	332	4.7%	20	0.29%	35	0.49%	7,077
Central	2,893	72.4%	228	5.7%	285	7.1%	27	0.69%	33	0.83%	246	6.2%	47	1.2%	190	4.8%	11	0.27%	33	0.82%	3,993
Central East	2,791	72.1%	224	5.8%	291	7.5%	28	0.73%	34	0.89%	227	5.9%	48	1.2%	184	4.7%	11	0.29%	30	0.79%	3,870
South East	228	50.2%	24	5.2%	103	22.7%	19	4.3%	10	2.3%	36	7.8%	6	1.4%	25	5.6%	0	0.0%	2	0.54%	455
Champlain	1,502	57.9%	156	6.0%	338	13.0%	29	1.1%	41	1.6%	328	12.6%	46	1.8%	128	4.9%	8	0.30%	21	0.80%	2,596
North Simcoe Muskoka	44	69.7%	2	3.7%	6	9.8%	0	0.0%	0	0.18%	6	9.5%	1	0.93%	3	5.5%	0	0.0%	0	0.71%	63
North East	130	45.0%	10	3.3%	92	31.9%	13	4.3%	0	0.0%	3	1.1%	14	4.7%	27	9.4%	1	0.35%	0	0.0%	290
North West	54	44.5%	1	1.2%	40	33.4%	3	2.5%	0	0.0%	1	0.83%	6	5.2%	15	12.4%	0	0.0%	0	0.0%	121
<b>Total</b>	<b>16,634</b>	<b>70.6%</b>	<b>1,234</b>	<b>5.2%</b>	<b>1,839</b>	<b>7.8%</b>	<b>273</b>	<b>1.2%</b>	<b>250</b>	<b>1.1%</b>	<b>1,579</b>	<b>6.7%</b>	<b>321</b>	<b>1.4%</b>	<b>1,188</b>	<b>5.0%</b>	<b>69</b>	<b>0.29%</b>	<b>170</b>	<b>0.72%</b>	<b>23,557</b>

1 Row percent

2 Adjusted for unknown LHIN region, sex and exposure category (see text for more details); thus, total may differ due to rounding; the total adjusted number by exposure category was different from the number adjusted by health region, since weights of allocation of unknown exposure category for the 14 LHIN regions were the weights from seven health regions

3 LHIN derived from public health unit (PHU); the proportion of LHIN region population in 2001 census in a split PHU was applied, if the PHU is across more than one LHIN region

4 Includes only HIV-infected infants

5 Other exposure includes needle-stick, acupuncture, tattoo, etc.

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table S-1b Number and proportion<sup>1</sup> of HIV diagnoses (adjusted<sup>2</sup>) among females by Local Health Integration Network (LHIN) region<sup>3</sup> and exposure category, Ontario, 1985 to 2006**

LHIN region	IDU		Clotting factor		Transfusion		HIV-endemic		HR hetero		LR hetero		MTC <sup>4</sup>		Other <sup>5</sup>		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
Erie St. Clair	8	8.9%	0	0.0%	6	6.4%	33	35.7%	25	27.0%	18	19.8%	0	0.0%	2	2.3%	93
South West	26	12.0%	2	0.94%	14	6.3%	62	28.7%	76	35.3%	29	13.4%	3	1.4%	4	1.9%	216
Waterloo Wellington	12	15.9%	0	0.0%	2	3.3%	29	38.5%	17	23.0%	11	15.3%	1	1.3%	2	2.7%	75
Hamilton Niagara Haldimand Brant	46	16.7%	3	1.1%	16	5.7%	80	29.3%	49	17.9%	65	23.5%	5	1.7%	11	4.0%	274
Central West	26	12.8%	1	0.45%	10	4.7%	70	34.2%	39	19.0%	42	20.3%	5	2.5%	12	5.9%	204
Mississauga Halton	28	12.7%	1	0.32%	13	6.1%	74	33.8%	39	17.7%	45	20.7%	6	2.5%	13	6.1%	218
Toronto Central	107	11.2%	7	0.78%	39	4.1%	445	46.5%	114	11.9%	202	21.1%	23	2.4%	20	2.1%	956
Central	61	10.7%	5	0.87%	22	3.9%	206	35.8%	114	19.9%	118	20.5%	13	2.3%	35	6.1%	575
Central East	56	10.2%	5	0.94%	18	3.4%	201	36.7%	121	22.1%	104	19.0%	12	2.1%	31	5.6%	548
South East	25	35.3%	0	0.0%	1	1.7%	10	14.0%	22	31.8%	12	17.2%	0	0.0%	0	0.0%	70
Champlain	136	20.1%	4	0.61%	58	8.6%	342	50.5%	46	6.8%	58	8.6%	16	2.4%	16	2.3%	677
North Simcoe Muskoka	1	9.7%	0	0.0%	2	13.3%	6	41.0%	4	28.0%	1	6.9%	0	0.0%	0	1.1%	15
North East	57	64.5%	1	1.2%	4	4.8%	5	5.7%	9	10.2%	12	13.6%	0	0.0%	0	0.0%	89
North West	30	56.4%	1	2.5%	1	1.9%	1	2.6%	13	23.9%	7	12.6%	0	0.0%	0	0.0%	52
<b>Total</b>	620	15.3%	31	0.76%	207	5.1%	1,564	38.5%	689	16.9%	724	17.8%	83	2.0%	146	3.6%	4,064

1 Row percent

2 Adjusted for unknown LHIN region, sex and exposure category (see text for more details), thus, total may differ due to rounding;  
the total adjusted number by exposure category was different from the number adjusted by health region, since weights of allocation of unknown exposure category for the 14 LHIN regions were the weights from seven health regions

3 LHIN derived from public health unit (PHU); the proportion of LHIN region population in 2001 census in a split PHU was applied, if the PHU is across more than one LHIN region

4 Includes only HIV-infected infants

5 Other exposure includes needle-stick, acupuncture, tattoo, etc.

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care



**Table S-2 Number and proportion<sup>1</sup> of HIV diagnoses (adjusted<sup>2</sup>) by Local Health Integration Network (LHIN) region<sup>3</sup> and exposure category, Ontario, 2006**

LHIN region	MSM		MSM-IDU		IDU		Clotting factor		Transfusion		HIV-endemic		HR hetero		LR hetero		MTC <sup>4</sup>		Other <sup>5</sup>		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
Erie St. Clair	9	33.0%	0	0.41%	0	0.0%	0	0.0%	0	0.63%	13	46.4%	1	3.9%	4	15.6%	0	0.0%	0	0.0%	28
South West	16	50.8%	0	0.87%	0	0.29%	0	0.0%	0	0.85%	8	25.1%	2	7.4%	5	14.7%	0	0.0%	0	0.0%	31
Waterloo Wellington	4	20.3%	0	2.0%	2	9.8%	1	3.9%	0	0.0%	7	37.0%	0	1.7%	5	22.6%	0	0.0%	1	2.7%	20
Hamilton Niagara Haldimand Brant	33	35.9%	2	2.4%	5	6.0%	0	0.0%	0	0.0%	12	13.2%	6	6.9%	28	31.3%	1	1.1%	3	3.2%	91
Central West	24	44.7%	1	2.3%	2	4.0%	0	0.4%	0	0.32%	12	22.3%	4	8.0%	8	14.5%	0	0.49%	2	3.1%	54
Mississauga Halton	26	46.0%	1	2.2%	2	3.3%	0	0.0%	0	0.27%	13	23.0%	5	9.3%	7	12.8%	0	0.37%	2	2.7%	57
Toronto Central	150	48.7%	6	1.8%	10	3.2%	0	0.0%	0	0.10%	72	23.5%	11	3.5%	51	16.5%	2	0.72%	6	2.0%	308
Central	80	44.5%	4	2.5%	9	4.8%	0	0.0%	1	0.39%	37	20.6%	8	4.3%	32	17.8%	1	0.66%	8	4.4%	179
Central East	76	43.4%	4	2.4%	8	4.7%	0	0.0%	1	0.40%	31	17.8%	10	5.6%	36	20.7%	1	0.65%	8	4.4%	175
South East	10	39.6%	2	7.6%	5	19.0%	0	0.0%	0	0.0%	5	18.7%	1	3.1%	3	12.0%	0	0.0%	0	0.0%	26
Champlain	62	38.2%	4	2.4%	8	4.9%	0	0.0%	3	2.0%	57	35.5%	5	2.9%	17	10.5%	0	0.0%	6	3.5%	162
North Simcoe Muskoka	1	36.4%	0	1.2%	0	1.3%	0	0.0%	0	0.0%	1	17.0%	0	6.0%	1	33.8%	0	0.0%	0	4.4%	4
North East	4	22.7%	0	1.2%	7	39.8%	0	0.0%	2	8.9%	0	0.0%	2	8.8%	3	18.6%	0	0.0%	0	0.0%	17
North West	0	4.6%	0	0.0%	5	51.2%	0	0.0%	0	0.0%	0	0.0%	0	5.3%	4	38.8%	0	0.0%	0	0.0%	9
<b>Total</b>	<b>495</b>	<b>42.7%</b>	<b>26</b>	<b>2.2%</b>	<b>63</b>	<b>5.4%</b>	<b>1</b>	<b>0.09%</b>	<b>7</b>	<b>0.63%</b>	<b>269</b>	<b>23.2%</b>	<b>56</b>	<b>4.8%</b>	<b>204</b>	<b>17.6%</b>	<b>6</b>	<b>0.52%</b>	<b>34</b>	<b>3.0%</b>	<b>1,160</b>

1 Row percent

2 Adjusted for unknown LHIN region, sex and exposure category (see text for more details), thus, total may differ due to rounding; the total adjusted number by exposure category was different from the number adjusted by health region, since weights of allocation of unknown exposure category for the 14 LHIN regions were the weights from seven health regions

3 LHIN derived from public health unit (PHU); the proportion of LHIN region population in 2001 census in a split PHU was applied, if the PHU is across more than one LHIN region

4 Includes only HIV-infected infants

5 Other exposure includes needle-stick, acupuncture, tattoo, etc.

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table S-2a Number and proportion<sup>1</sup> of HIV diagnoses (adjusted<sup>2</sup>) among males by Local Health Integration Network (LHIN) region<sup>3</sup> and exposure category, Ontario, 2006**

LHIN region	MSM		MSM-IDU		IDU		Clotting factor		Transfusion		HIV-endemic <sup>c</sup>		HR hetero		LR hetero		MTC <sup>4</sup>		Other <sup>5</sup>		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Erie St. Clair	9	44.1%	0	0.55%	0	0.0%	0	0.0%	0	0.84%	6	28.4%	1	5.3%	4	20.8%	0	0.0%	0	0.0%	21
South West	16	76.2%	0	1.3%	0	0.0%	0	0.0%	0	0.40%	2	10.0%	0	1.4%	2	10.6%	0	0.0%	0	0.0%	21
Waterloo Wellington	4	47.4%	0	4.6%	0	2.1%	1	9.2%	0	0.0%	1	7.5%	0	0.0%	2	25.1%	0	0.0%	0	4.2%	9
Hamilton Niagara Haldimand Brant	33	61.3%	2	4.1%	3	4.9%	0	0.0%	0	0.0%	5	9.3%	0	0.0%	9	16.9%	1	1.9%	1	1.6%	53
Central West	24	61.4%	1	3.1%	2	3.9%	0	0.5%	0	0.0%	6	16.3%	1	1.5%	4	11.2%	0	0.13%	1	1.8%	40
Mississauga Halton	26	63.6%	1	3.0%	1	3.2%	0	0.0%	0	0.0%	7	17.4%	1	1.3%	4	10.0%	0	0.10%	1	1.5%	41
Toronto Central	150	67.0%	6	2.5%	7	2.9%	0	0.0%	0	0.1%	24	10.9%	5	2.2%	27	11.9%	0	0.20%	5	2.4%	223
Central	80	62.4%	4	3.5%	7	5.2%	0	0.0%	0	0.0%	15	11.7%	2	1.8%	16	12.6%	0	0.19%	3	2.6%	128
Central East	76	59.0%	4	3.2%	6	4.9%	0	0.0%	0	0.0%	15	11.8%	3	2.1%	21	16.2%	0	0.18%	3	2.6%	129
South East	10	43.0%	2	8.3%	5	19.7%	0	0.0%	0	0.0%	4	17.2%	1	3.4%	2	8.5%	0	0.0%	0	0.0%	24
Champlain	62	56.2%	4	3.5%	5	4.7%	0	0.0%	3	3.0%	17	15.1%	2	1.6%	12	10.8%	0	0.0%	6	5.2%	110
North Simcoe Muskoka	1	36.4%	0	1.2%	0	1.3%	0	0.0%	0	0.0%	1	17.0%	0	6.0%	1	33.8%	0	0.0%	0	4.4%	4
North East	4	32.1%	0	1.7%	5	39.7%	0	0.0%	0	0.17%	0	0.0%	0	0.0%	3	26.3%	0	0.0%	0	0.0%	12
North West	0	13.9%	0	0.0%	1	35.6%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	50.5%	0	0.0%	0	0.0%	3
<b>Total</b>	<b>495</b>	<b>60.6%</b>	<b>26</b>	<b>3.1%</b>	<b>41</b>	<b>5.0%</b>	<b>1</b>	<b>0.12%</b>	<b>4</b>	<b>0.45%</b>	<b>103</b>	<b>12.6%</b>	<b>15</b>	<b>1.9%</b>	<b>110</b>	<b>13.4%</b>	<b>2</b>	<b>0.24%</b>	<b>20</b>	<b>2.5%</b>	<b>816</b>

1 Row percent

2 Adjusted for unknown LHIN region, sex and exposure category (see text for more details), thus, total may differ due to rounding;  
the total adjusted number by exposure category was different from the number adjusted by health region, since weights of allocation of unknown exposure category for the 14 LHIN regions were the weights from seven health regions

3 LHIN derived from public health unit (PHU); the proportion of LHIN region population in 2001 census in a split PHU was applied, if the PHU is across more than one LHIN region

4 Includes only HIV-infected infants

5 Other exposure includes needle-stick, acupuncture, tattoo, etc.

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table S-2b Number and proportion<sup>1</sup> of HIV diagnoses (adjusted<sup>2</sup>) among females by Local Health Integration Network (LHIN) region<sup>3</sup> and exposure category, Ontario, 2006**

LHIN region	IDU		Clotting factor		Transfusion		HIV-endemic		HR hetero		LR hetero		MTC <sup>4</sup>		Other <sup>5</sup>		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
Erie St. Clair	0	0.0%	0	0.0%	0	0.0%	7	100%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	7
South West	0	0.86%	0	0.0%	0	1.8%	6	55.3%	2	19.3%	2	22.8%	0	0.0%	0	0.0%	10
Waterloo Wellington	2	15.6%	0	0.0%	0	0.0%	7	59.2%	0	2.9%	2	20.7%	0	0.0%	0	1.5%	11
Hamilton Niagara Haldimand Brant	3	7.6%	0	0.0%	0	0.0%	7	18.6%	6	16.8%	19	51.6%	0	0.0%	2	5.4%	38
Central West	1	4.1%	0	0.0%	0	1.2%	6	38.3%	4	25.2%	3	23.4%	0	1.4%	1	6.4%	15
Mississauga Halton	1	3.8%	0	0.0%	0	1.0%	6	37.7%	5	30.4%	3	20.3%	0	1.1%	1	5.8%	16
Toronto Central	3	3.9%	0	0.0%	0	0.20%	48	56.9%	6	7.2%	24	28.6%	2	2.1%	1	1.1%	84
Central	2	3.9%	0	0.0%	1	1.4%	22	42.6%	5	10.4%	16	30.8%	1	1.9%	5	9.1%	51
Central East	2	4.0%	0	0.0%	1	1.5%	16	34.4%	7	15.5%	15	33.2%	1	2.0%	4	9.5%	46
South East	0	9.7%	0	0.0%	0	0.0%	1	37.0%	0	0.0%	1	53.3%	0	0.0%	0	0.0%	2
Champlain	3	5.4%	0	0.0%	0	0.0%	41	78.9%	3	5.7%	5	10.0%	0	0.0%	0	0.0%	52
North Simcoe Muskoka	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
North East	2	40.0%	0	0.0%	2	30.0%	0	0.0%	2	30.1%	0	0.0%	0	0.0%	0	0.0%	5
North West	4	59.0%	0	0.0%	0	0.0%	0	0.0%	0	8.0%	2	33.0%	0	0.0%	0	0.0%	6
<b>Total</b>	<b>22</b>	<b>6.3%</b>	<b>0</b>	<b>0.0%</b>	<b>4</b>	<b>1.0%</b>	<b>165</b>	<b>48.2%</b>	<b>41</b>	<b>11.8%</b>	<b>94</b>	<b>27.4%</b>	<b>4</b>	<b>1.2%</b>	<b>14</b>	<b>4.1%</b>	<b>344</b>

1 Row percent

2 Adjusted for unknown LHIN region, sex and exposure category (see text for more details), thus, total may differ due to rounding; the total adjusted number by exposure category was different from the number adjusted by health region, since weights of allocation of unknown exposure category for the 14 LHIN regions were the weights from seven health regions

3 LHIN derived from public health unit (PHU); the proportion of LHIN region population in 2001 census in a split PHU was applied, if the PHU is across more than one LHIN region

4 Includes only HIV-infected infants

5 Other exposure includes needle-stick, acupuncture, tattoo, etc.

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table S-3 Number of HIV diagnoses (adjusted<sup>1</sup>) and rate<sup>2</sup> per 100,000 by Local Health Integration Network (LHIN) Region<sup>3</sup> and sex, Ontario, 1985 to 2006**

LHIN region	Males		Females		Total	
	Number	Rate	Number	Rate	Number	Rate
Erie St. Clair	496	163.7	93	30.5	589	96.6
South West	1,166	271.4	216	49.1	1,382	158.8
Waterloo Wellington	236	74.8	75	23.6	311	49.1
Hamilton Niagara Haldimand Brant	963	154.7	274	42.9	1,237	98.0
Central West	1,127	361.9	204	64.8	1,331	212.4
Mississauga Halton	1,105	247.4	218	48.2	1,323	147.2
Toronto Central	7,077	1,327.3	956	170.8	8,034	734.9
Central	3,993	598.2	575	83.9	4,568	337.6
Central East	3,870	584.2	548	80.1	4,418	328.0
South East	455	203.3	70	30.7	525	116.1
Champlain	2,596	477.8	677	121.5	3,272	297.4
North Simcoe Muskoka	63	33.4	15	7.8	77	20.6
North East	290	105.6	89	31.9	379	68.4
North West	121	103.3	52	44.9	173	74.2
<b>Total</b>	<b>23,557</b>	<b>417.9</b>	<b>4,064</b>	<b>70.4</b>	<b>27,621</b>	<b>242.1</b>

1 Adjusted for unknown sex

2 Using 2001 census population (Statistics Canada)

3 LHIN derived from public health unit (PHU); the proportion of LHIN region population in 2001 census in a split PHU was applied, if the PHU is across more than one LHIN region

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care;  
Statistics Canada (2001 census)

**Table S-4 Number and proportion<sup>1</sup> of AIDS cases (adjusted<sup>2</sup>) by Local Health Integration Network (LHIN) region<sup>3</sup> and exposure category, Ontario, 1981 to 2006**

LHIN region	MSM		MSM-IDU		IDU		HIV-endemic <sup>c</sup>		Heterosexual		Clotting factor		Transfusion		MTC		Occupational		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
Erie St. Clair	187	64.9%	20	6.7%	25	8.6%	7	2.4%	42	14.4%	6	2.1%	1	0.44%	1	0.35%	0	0.0%	289
South West	263	68.4%	21	5.4%	17	4.4%	6	1.7%	52	13.6%	12	3.2%	12	3.1%	1	0.29%	0	0.0%	385
Waterloo Wellington	100	63.5%	1	0.73%	13	8.2%	13	8.1%	20	12.5%	4	2.5%	6	3.8%	1	0.63%	0	0.0%	158
Hamilton Niagara Haldimand Brant	334	63.6%	22	4.1%	36	6.8%	29	5.5%	77	14.6%	15	2.9%	10	1.8%	3	0.62%	0	0.0%	525
Central West	287	67.2%	16	3.6%	14	3.3%	33	7.6%	56	13.1%	8	1.9%	10	2.3%	4	0.92%	0	0.06%	427
Mississauga Halton	302	64.5%	17	3.7%	17	3.7%	34	7.3%	69	14.8%	10	2.1%	13	2.8%	5	1.1%	0	0.0%	468
Toronto Central	1,704	77.0%	86	3.9%	63	2.8%	161	7.3%	148	6.7%	12	0.53%	23	1.0%	15	0.68%	2	0.08%	2,212
Central	1,005	74.3%	49	3.7%	44	3.2%	95	7.0%	115	8.5%	10	0.75%	25	1.8%	8	0.62%	2	0.15%	1,353
Central East	996	75.0%	49	3.7%	43	3.2%	100	7.5%	100	7.5%	13	1.0%	19	1.5%	8	0.58%	1	0.07%	1,328
South East	89	48.9%	13	7.3%	40	22.0%	5	2.5%	17	9.5%	7	4.1%	9	5.2%	1	0.55%	0	0.0%	183
Champlain	423	59.9%	27	3.8%	75	10.6%	90	12.8%	53	7.5%	15	2.1%	12	1.7%	10	1.4%	2	0.30%	706
North Simcoe Muskoka	62	56.3%	3	2.6%	9	8.6%	1	0.88%	21	18.9%	4	3.4%	8	7.6%	2	1.6%	0	0.0%	110
North East	105	53.3%	19	9.5%	34	17.2%	9	4.8%	12	5.8%	12	5.9%	7	3.5%	0	0.0%	0	0.0%	197
North West	28	34.8%	2	2.9%	17	20.8%	4	4.4%	24	30.5%	1	1.5%	2	2.6%	2	2.5%	0	0.0%	80
<b>Total</b>	<b>5,886</b>	<b>69.9%</b>	<b>344</b>	<b>4.1%</b>	<b>446</b>	<b>5.3%</b>	<b>585</b>	<b>7.0%</b>	<b>805</b>	<b>9.6%</b>	<b>129</b>	<b>1.5%</b>	<b>157</b>	<b>1.9%</b>	<b>61</b>	<b>0.72%</b>	<b>7</b>	<b>0.09%</b>	<b>8,421</b>

1 Row percent

2 Adjusted for unknown exposure category according to proportion among the known cases stratified by sex, LHIN region and year of diagnosis

3 LHIN derived from public health unit (PHU); the proportion of LHIN region population in 2001 census in a split PHU was applied, if the PHU is across more than one LHIN region

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table S-4a Number and proportion<sup>1</sup> of AIDS cases (adjusted<sup>2</sup>) among males by Local Health Integration Network (LHIN) region<sup>3</sup> and exposure category, Ontario, 1981 to 2006**

LHIN region	MSM		MSM-IDU		IDU		HIV-endemic		Heterosexual		Clotting factor		Transfusion		MTC		Occupational		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
Erie St. Clair	187	71.3%	20	7.4%	20	7.8%	4	1.4%	24	9.3%	6	2.4%	1	0.48%	0	0.00%	0	0.0%	263
South West	263	76.0%	21	6.0%	11	3.1%	5	1.6%	26	7.6%	12	3.5%	7	1.9%	1	0.29%	0	0.0%	346
Waterloo Wellington	100	71.5%	1	0.82%	10	7.0%	8	5.5%	13	9.5%	4	2.8%	3	2.2%	1	0.71%	0	0.0%	140
Hamilton Niagara Haldimand Brant	334	71.8%	22	4.7%	29	6.1%	15	3.2%	45	9.6%	15	3.2%	5	1.0%	1	0.30%	0	0.0%	466
Central West	287	74.0%	16	4.0%	10	2.7%	22	5.7%	38	9.7%	7	1.7%	7	1.7%	2	0.46%	0	0.07%	388
Mississauga Halton	302	71.5%	17	4.1%	14	3.2%	23	5.5%	46	10.9%	8	1.8%	10	2.3%	3	0.6%	0	0.0%	422
Toronto Central	1,704	82.1%	86	4.1%	46	2.2%	101	4.9%	104	5.0%	10	0.50%	15	0.75%	8	0.38%	2	0.09%	2,076
Central	1,005	80.0%	49	3.9%	32	2.6%	57	4.6%	83	6.6%	9	0.74%	14	1.1%	4	0.34%	2	0.16%	1,256
Central East	996	80.6%	49	3.9%	33	2.7%	59	4.8%	69	5.6%	12	0.9%	13	1.1%	4	0.33%	1	0.08%	1,236
South East	89	55.2%	13	8.2%	32	19.6%	0	0.0%	11	7.1%	7	4.6%	7	4.6%	1	0.62%	0	0.0%	162
Champlain	423	68.2%	27	4.3%	61	9.8%	48	7.7%	36	5.9%	14	2.2%	9	1.4%	3	0.48%	0	0.0%	620
North Simcoe Muskoka	62	66.2%	3	3.1%	7	7.2%	1	1.03%	12	13.1%	3	3.1%	6	6.2%	0	0.0%	0	0.0%	93
North East	105	59.7%	19	10.7%	23	12.9%	7	4.3%	7	4.0%	12	6.6%	3	2.0%	0	0.0%	0	0.0%	176
North West	28	49.7%	2	4.1%	5	9.6%	1	1.8%	16	28.9%	1	2.1%	1	1.9%	1	1.8%	0	0.0%	56
<b>Total</b>	<b>5,886</b>	<b>76.4%</b>	<b>344</b>	<b>4.5%</b>	<b>332</b>	<b>4.3%</b>	<b>352</b>	<b>4.6%</b>	<b>531</b>	<b>6.9%</b>	<b>120</b>	<b>1.6%</b>	<b>101</b>	<b>1.3%</b>	<b>29</b>	<b>0.38%</b>	<b>5</b>	<b>0.07%</b>	<b>7,700</b>

1 Row percent

2 Adjusted for unknown exposure category according to proportion among the known cases stratified by sex, LHIN region and year of diagnosis

3 LHIN derived from public health unit (PHU); the proportion of LHIN region population in 2001 census in a split PHU was applied, if the PHU is across more than one LHIN region

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care



**Table S-4b** Number and proportion<sup>1</sup> of AIDS cases (adjusted<sup>2</sup>) among females by Local Health Integration Network (LHIN) region<sup>3</sup> and exposure category, Ontario, 1981 to 2006

LHIN region	IDU		HIV-endemic		Heterosexual		Clotting factor		Transfusion		MTC		Occupational		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
Erie St. Clair	5	17.3%	3	12.5%	17	66.3%	0	0.0%	0	0.0%	1	3.8%	0	0.0%	26
South West	6	16.4%	1	2.6%	26	67.6%	0	0.0%	5	13.1%	0	0.32%	0	0.0%	38
Waterloo Wellington	3	17.8%	5	28.8%	6	36.2%	0	0.0%	3	17.2%	0	0.0%	0	0.0%	18
Hamilton Niagara Haldimand Brant	7	12.1%	14	22.9%	32	53.6%	0	0.0%	5	8.3%	2	3.1%	0	0.0%	60
Central West	4	10.0%	11	26.9%	18	46.6%	1	3.7%	3	7.4%	2	5.4%	0	0.0%	39
Mississauga Halton	3	7.5%	11	24.0%	23	51.0%	2	4.1%	4	8.3%	2	5.2%	0	0.0%	46
Toronto Central	17	12.5%	60	43.8%	44	32.0%	1	1.0%	7	5.4%	7	5.2%	0	0.0%	137
Central	12	12.0%	37	38.5%	33	33.7%	1	0.90%	10	10.6%	4	4.2%	0	0.0%	97
Central East	9	10.2%	40	43.9%	31	33.3%	2	1.9%	6	6.8%	4	3.9%	0	0.0%	92
South East	8	40.7%	5	21.9%	6	27.8%	0	0.0%	2	9.6%	0	0.0%	0	0.0%	1
Champlain	14	16.4%	42	49.1%	16	18.9%	1	1.2%	3	3.9%	7	8.1%	2	2.4%	
North Simcoe Muskoka	3	16.9%	0	0.0%	8	51.5%	1	5.3%	3	15.7%	2	10.5%	0	0.0%	16
North East	11	53.1%	2	9.5%	5	21.5%	0	0.0%	3	15.9%	0	0.0%	0	0.0%	21
North West	11	46.9%	3	10.4%	8	34.4%	0	0.0%	1	4.2%	1	4.2%	0	0.0%	24
<b>Total</b>	<b>114</b>	<b>15.9%</b>	<b>234</b>	<b>32.4%</b>	<b>274</b>	<b>38.0%</b>	<b>9</b>	<b>1.3%</b>	<b>56</b>	<b>7.8%</b>	<b>32</b>	<b>4.4%</b>	<b>2</b>	<b>0.29%</b>	<b>721</b>

1 Row percent

2 Adjusted for unknown exposure category according to proportion among the known cases stratified by sex, LHIN region and year of diagnosis

3 LHIN derived from public health unit (PHU); the proportion of LHIN region population in 2001 census in a split PHU was applied, if the PHU is across more than one LHIN region

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table S-5 Number and proportion<sup>1</sup> of AIDS cases (adjusted<sup>2</sup>) by Local Health Integration Network (LHIN) region<sup>3</sup> and exposure category, Ontario, 2006**

LHIN region	MSM		MSM-IDU		IDU		HIV-endemic		Heterosexual		Clotting factor		Transfusion		MTC		Occupational		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
Erie St. Clair	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
South West	2	27.8%	0	0.0%	2	22.3%	1	14.3%	2	34.2%	0	0.0%	0	1.5%	0	0.0%	0	0.0%	7
Waterloo Wellington	2	65.0%	0	0.0%	0	6.2%	0	1.8%	1	25.3%	0	1.8%	0	0.0%	0	0.0%	0	0.0%	3
Hamilton Niagara Haldimand Brant	5	36.0%	0	0.63%	2	12.1%	3	17.8%	5	33.1%	0	0.0%	0	0.26%	0	0.0%	0	0.0%	15
Central West	3	47.8%	0	0.0%	1	9.8%	1	21.0%	1	11.7%	0	0.0%	0	1.2%	0	8.6%	0	0.0%	6
Mississauga Halton	3	41.4%	0	0.0%	1	20.7%	1	13.8%	1	13.3%	0	0.0%	0	0.69%	1	10.2%	0	0.0%	6
Toronto Central	15	50.4%	0	0.08%	1	3.4%	10	33.8%	3	9.2%	0	0.0%	0	1.6%	0	1.5%	0	0.01%	29
Central	9	48.5%	0	0.06%	1	2.8%	5	27.5%	4	18.5%	0	0.02%	0	1.3%	0	1.2%	0	0.01%	19
Central East	9	53.5%	0	0.09%	1	3.2%	5	31.8%	1	8.6%	0	0.0%	0	1.5%	0	1.4%	0	0.01%	16
South East	2	28.1%	0	7.4%	2	33.6%	0	5.1%	1	25.8%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	6
Champlain	3	29.1%	0	0.87%	1	13.9%	4	42.2%	1	13.9%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	9
North Simcoe Muskoka	3	75.0%	0	0.0%	0	0.0%	0	0.0%	1	25.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3
North East	0	12.3%	0	10.9%	0	16.5%	0	0.0%	0	5.5%	0	5.5%	1	49.3%	0	0.0%	0	0.0%	2
North West	0	4.2%	0	0.0%	3	52.1%	1	16.7%	2	27.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	6
<b>Total</b>	<b>55</b>	<b>42.7%</b>	<b>1</b>	<b>0.67%</b>	<b>14</b>	<b>11.0%</b>	<b>31</b>	<b>24.4%</b>	<b>23</b>	<b>17.7%</b>	<b>0</b>	<b>0.14%</b>	<b>2</b>	<b>1.7%</b>	<b>2</b>	<b>1.6%</b>	<b>0</b>	<b>0.0%</b>	<b>128</b>

1 Row percent

2 Adjusted for unknown exposure category according to proportion among the known cases stratified by sex, LHIN region and year of diagnosis

3 LHIN derived from public health unit (PHU); the proportion of LHIN region population in 2001 census in a split PHU was applied, if the PHU is across more than one LHIN region

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table S-5a Number and proportion<sup>1</sup> of AIDS cases (adjusted<sup>2</sup>) among males by Local Health Integration Network (LHIN) region<sup>3</sup> and exposure category, Ontario, 2006**

LHIN region	MSM		MSM-IDU		IDU		HIV-endemic <sup>c</sup>		Heterosexual		Clotting factor		Transfusion		MTC		Occupational		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
Erie St. Clair	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
South West	2	64.8%	0	0.0%	0	10.5%	0	0.0%	1	21.2%	0	0.0%	0	3.5%	0	0.0%	0	0.0%	3
Waterloo Wellington	2	84.9%	0	0.0%	0	8.1%	0	2.3%	0	2.4%	0	2.3%	0	0.0%	0	0.0%	0	0.0%	3
Hamilton Niagara Haldimand Brant	5	50.7%	0	0.88%	2	14.8%	0	2.9%	3	30.3%	0	0.0%	0	0.37%	0	0.0%	0	0.0%	11
Central West	3	62.9%	0	0.06%	0	11.4%	1	18.2%	0	4.9%	0	0.0%	0	1.3%	0	1.3%	0	0.0%	4
Mississauga Halton	3	55.9%	0	0.07%	1	26.6%	1	13.2%	0	2.3%	0	0.0%	0	0.92%	0	0.92%	0	0.0%	5
Toronto Central	15	62.8%	0	0.10%	0	2.1%	6	27.0%	1	4.2%	0	0.0%	0	1.9%	0	1.9%	0	0.01%	23
Central	9	57.8%	0	0.07%	0	1.7%	3	21.2%	3	16.3%	0	0.03%	0	1.5%	0	1.5%	0	0.01%	16
Central East	9	65.6%	0	0.11%	0	1.9%	3	25.0%	1	3.9%	0	0.0%	0	1.8%	0	1.7%	0	0.01%	13
South East	2	32.2%	0	8.5%	2	35.6%	0	0.0%	1	23.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	5
Champlain	3	53.6%	0	1.6%	1	12.6%	1	25.9%	0	6.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	5
North Simcoe Muskoka	3	75.0%	0	0.0%	0	0.0%	0	0.0%	1	25.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3
North East	0	12.3%	0	10.9%	0	16.5%	0	0.0%	0	5.5%	0	5.5%	1	49.3%	0	0.0%	0	0.0%	2
North West	0	12.5%	0	0.0%	0	6.3%	1	50.0%	1	31.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2
<b>Total</b>	<b>55</b>	<b>57.5%</b>	<b>1</b>	<b>0.91%</b>	<b>8</b>	<b>8.1%</b>	<b>17</b>	<b>17.9%</b>	<b>11</b>	<b>12.1%</b>	<b>0</b>	<b>0.18%</b>	<b>2</b>	<b>2.3%</b>	<b>1</b>	<b>1.1%</b>	<b>0</b>	<b>0.0%</b>	<b>95</b>

1 Row percent

2 Adjusted for unknown exposure category according to proportion among the known cases stratified by sex, LHIN region and year of diagnosis

3 LHIN derived from public health unit (PHU); the proportion of LHIN region population in 2001 census in a split PHU was applied, if the PHU is across more than one LHIN region

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table S-5b Number and proportion<sup>1</sup> of AIDS cases (adjusted<sup>2</sup>) among females by Local Health Integration Network (LHIN) region<sup>3</sup> and exposure category, Ontario, 2006**

LHIN region	IDU		HIV-endemic		Heterosexual		Clotting factor		Transfusion		MTC		Occupational		Total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
Erie St. Clair	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
South West	1	31.1%	1	25.0%	2	43.9%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4
Waterloo Wellington	0	0.0%	0	0.0%	1	100%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1
Hamilton Niagara Haldimand Brant	0	5.6%	2	54.4%	2	40.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4
Central West	0	4.7%	0	29.6%	0	33.1%	0	0.0%	0	0.75%	0	31.8%	0	0.0%	1
Mississauga Halton	0	2.6%	0	15.1%	1	45.2%	0	0.0%	0	0.0%	1	37.2%	0	0.0%	2
Toronto Central	1	9.0%	4	61.4%	2	29.3%	0	0.0%	0	0.33%	0	0.0%	0	0.0%	6
Central	0	8.9%	2	60.5%	1	30.3%	0	0.0%	0	0.31%	0	0.0%	0	0.0%	3
Central East	0	8.7%	2	61.8%	1	29.2%	0	0.0%	0	0.26%	0	0.0%	0	0.0%	3
South East	0	20.0%	0	40.0%	0	40.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1
Champlain	1	15.3%	3	61.7%	1	23.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4
North Simcoe Muskoka	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
North East	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
North West	3	75.0%	0	0.0%	1	25.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4
<b>Total</b>	<b>6</b>	<b>19.6%</b>	<b>14</b>	<b>43.1%</b>	<b>11</b>	<b>34.1%</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0.14%</b>	<b>1</b>	<b>3.0%</b>	<b>0</b>	<b>0.0%</b>	<b>33</b>

<sup>1</sup> Row percent

<sup>2</sup> Adjusted for unknown exposure category according to proportion among the known cases stratified by sex, LHIN region and year of diagnosis

<sup>3</sup> LHIN derived from public health unit (PHU); the proportion of LHIN region population in 2001 census in a split PHU was applied, if the PHU is across more than one LHIN region

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care

**Table S-6 Number of AIDS cases (adjusted<sup>1</sup>) and rate<sup>2</sup> per 100,000 by Local Health Integration Network (LHIN) region<sup>3</sup> and sex, Ontario, 1981 to 2006**

LHIN region	Males		Females		Total	
	Number	Rate	Number	Rate	Number	Rate
Erie St. Clair	263	86.9	26	8.5	289	47.4
South West	346	80.6	38	8.7	385	44.2
Waterloo Wellington	140	44.5	18	5.5	158	24.9
Hamilton Niagara Haldimand Brant	466	74.8	60	9.3	525	41.6
Central West	388	124.6	39	12.5	427	68.2
Mississauga Halton	422	94.4	46	10.2	468	52.0
Toronto Central	2,076	389.3	137	24.4	2,212	202.4
Central	1,256	188.2	97	14.1	1,353	100.0
Central East	1,236	186.5	92	13.4	1,328	98.6
South East	162	72.3	21	9.1	183	40.4
Champlain	620	114.1	86	15.5	706	64.2
North Simcoe Muskoka	93	49.7	16	8.7	110	29.1
North East	176	64.3	21	7.5	197	35.7
North West	56	47.9	24	20.6	80	34.3
<b>Total</b>	<b>7,700</b>	<b>136.6</b>	<b>721</b>	<b>12.5</b>	<b>8,421</b>	<b>73.8</b>

1 Adjusted for unknown sex

2 Using 2001 census population (Statistics Canada)

3 LHIN derived from public health unit (PHU); the proportion of LHIN region population in 2001 census in a split PHU was applied, if the PHU is across more than one LHIN region

Data source: HIV Laboratory, Laboratories Branch, Ontario Ministry of Health and Long-Term Care;  
Statistics Canada (2001 census)

**Table S-7 Modeled HIV prevalence by Local Health Integration Network (LHIN) region and exposure category, Ontario, December 2006**

Heath region	MSM	MSM-IDU	IDU	HIV-endemic	Heterosexual	Clotting factor	Transfusion	Total <sup>1</sup>	Proportion <sup>2</sup>
Erie St. Clair	360	15	40	85	115	5	0	620	2.3%
South West	610	25	70	125	210	5	0	1,040	4.0%
Waterloo Wellington	265	20	60	80	90	0	0	520	2.0%
Hamilton Niagara Haldimand Brant	610	45	130	200	210	5	0	1,210	4.6%
Central West	745	30	65	190	205	5	0	1,240	4.7%
Mississauga Halton	730	30	75	205	220	5	0	1,270	4.8%
Toronto Central	5,050	170	290	1,100	775	40	10	7,440	28.2%
Central	2,740	100	185	655	545	20	10	4,250	16.1%
Central East	2,725	100	185	645	535	20	5	4,210	16.0%
South East	205	15	100	50	70	5	0	440	1.7%
Champlain	1,360	115	525	800	495	15	5	3,310	12.6%
North Simcoe Muskoka	70	5	15	15	20	0	0	120	0.47%
North East	135	30	135	20	150	5	0	470	1.8%
North West	55	10	55	10	70	0	0	200	0.76%
<b>Total</b>	15,660	710	1,930	4,180	3,710	130	30	26,360	
<b>Proportion<sup>3</sup></b>	59.4%	2.7%	7.3%	15.9%	14.1%	0.49%	0.11%		

1 The cells may not add up to the row and column totals due to rounding

2 Column percent

3 Row percent



**Table S-7a Modeled HIV prevalence among males by Local Health Integration Network (LHIN) region and exposure category, Ontario, December 2006**

Heath region	MSM	MSM-IDU	IDU	HIV-endemic	Heterosexual	Clotting factor	Transfusion	Total <sup>1</sup>	Proportion <sup>2</sup>
Erie St. Clair	360	15	25	50	35	5	0	490	2.2%
South West	610	25	45	75	50	5	0	810	3.7%
Waterloo Wellington	265	20	45	50	35	0	0	420	1.9%
Hamilton Niagara Haldimand Brant	610	45	90	115	65	5	0	930	4.2%
Central West	745	30	45	120	100	5	0	1,050	4.7%
Mississauga Halton	730	30	55	130	105	5	0	1,060	4.8%
Toronto Central	5,050	170	200	655	395	35	5	6,510	29.5%
Central	2,740	100	130	410	250	20	5	3,660	16.6%
Central East	2,725	100	130	400	250	20	5	3,620	16.4%
South East	205	15	75	40	30	5	0	370	1.7%
Champlain	1,360	115	390	470	240	15	5	2,590	11.7%
North Simcoe Muskoka	70	5	10	10	10	0	0	100	0.47%
North East	135	30	85	10	75	5	0	330	1.5%
North West	55	10	35	5	40	0	0	150	0.67%
<b>Total</b>	<b>15,660</b>	<b>710</b>	<b>1,360</b>	<b>2,540</b>	<b>1,680</b>	<b>125</b>	<b>20</b>	<b>22,090</b>	
<b>Proportion<sup>3</sup></b>	<b>70.9%</b>	<b>3.2%</b>	<b>6.2%</b>	<b>11.5%</b>	<b>7.6%</b>	<b>0.57%</b>	<b>0.09%</b>		

1 The cells may not add up to the row and column totals due to rounding

2 Column percent

3 Row percent

**Table S-7b Modeled HIV prevalence among females by Local Health Integration Network (LHIN) region and exposure category, Ontario, December 2006**

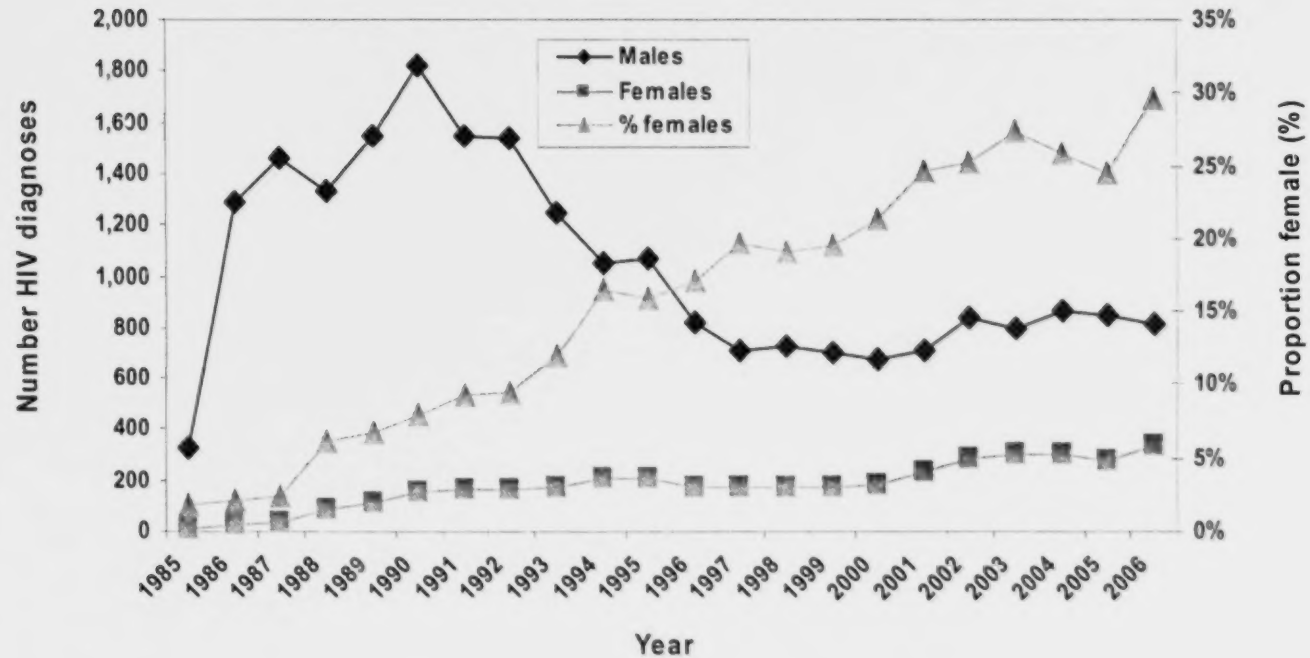
Heath region	IDU	HIV-endemic	Heterosexual	Clotting factor	Transfusion	Total <sup>1</sup>	Proportion <sup>2</sup>
Erie St. Clair	15	35	80	0	0	130	3.0%
South West	25	50	160	0	0	230	5.5%
Waterloo Wellington	15	30	55	0	0	100	2.4%
Hamilton Niagara Haldimand Brant	40	85	145	0	0	270	6.4%
Central West	20	70	105	0	0	200	4.6%
Mississauga Halton	20	75	115	0	0	210	5.0%
Toronto Central	90	445	380	5	5	930	21.7%
Central	55	245	295	0	5	600	14.0%
Central East	55	245	285	0	0	590	13.8%
South East	25	10	40	0	0	80	1.9%
Champlain	135	330	255	0	0	720	16.9%
North Simcoe Muskoka	5	5	10	0	0	20	0.47%
North East	50	10	75	0	0	130	3.1%
North West	20	5	30	0	0	50	1.2%
<b>Total</b>	570	1,640	2,030	5	10	4,260	
<b>Proportion<sup>3</sup></b>	13.4%	38.5%	47.7%	0.12%	0.23%		

1 The cells may not add up to the row and column totals due to rounding

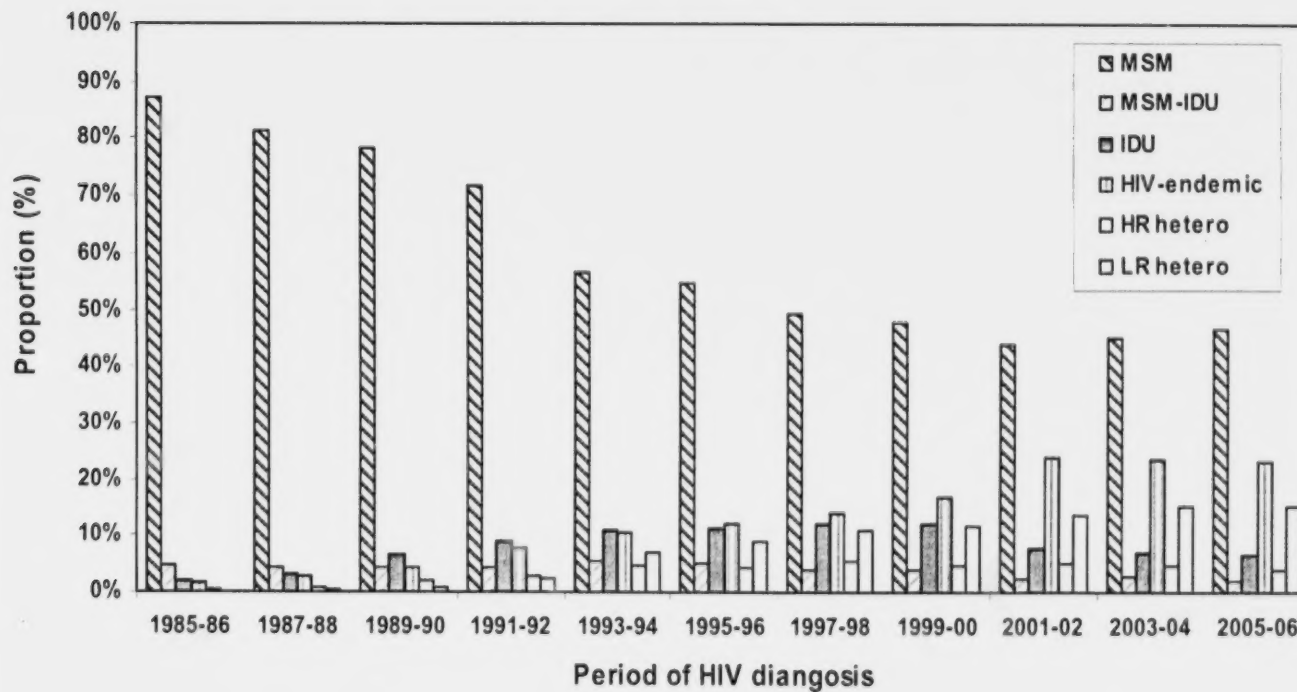
2 Column percent

3 Row percent

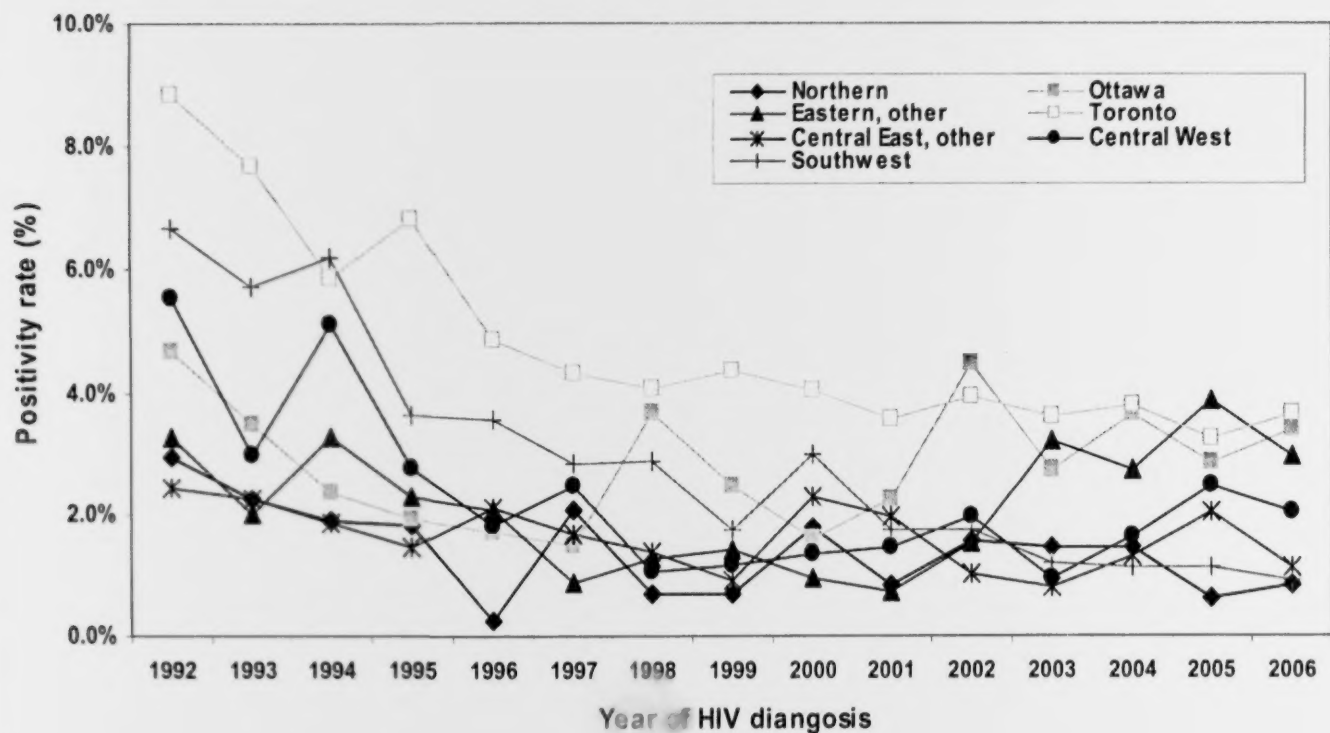
**Figure 1.1 Number of HIV diagnoses by year of HIV diagnosis and sex, Ontario, 1985 to 2006**



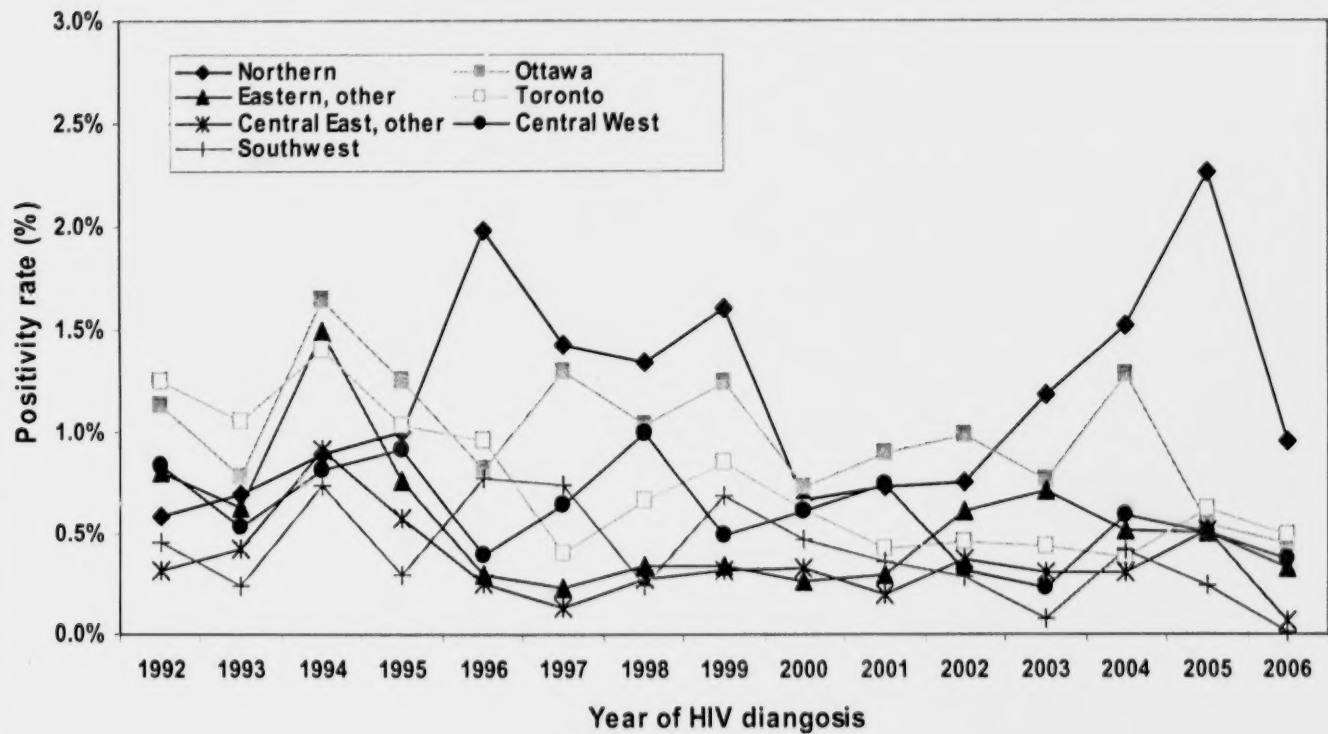
**Figure 1.2 Proportion of HIV-diagnoses (adjusted) by period and exposure category, Ontario, 1985 to 2006**



**Figure 1.3 HIV positivity rates (adjusted) among MSM by year of HIV diagnosis and health region, Ontario, 1992 to 2006**

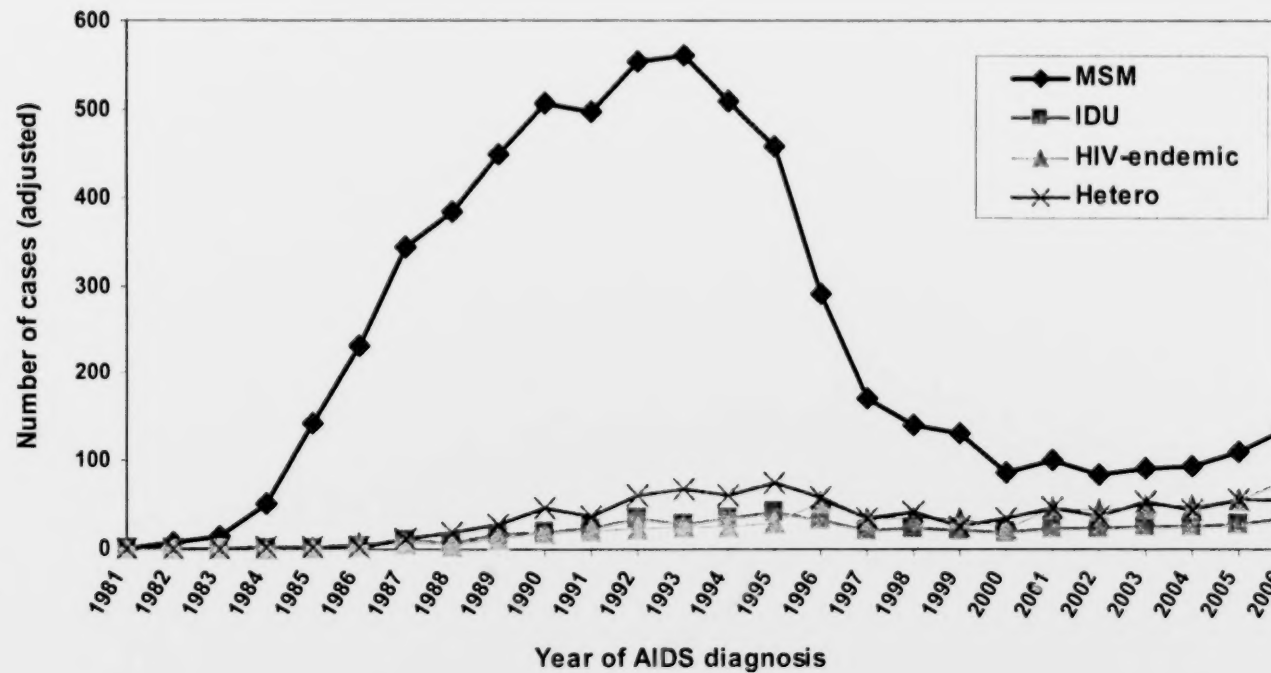


**Figure 1.4 HIV positivity rates (adjusted) among IDU by year of HIV diagnosis and health region, Ontario, 1992 to 2006**





**Figure 2.1 Number of reported AIDS cases adjusted for reporting delays and unknown exposure category by year of AIDS diagnosis and exposure category, Ontario, 1981 to 2006**



**Figure 3.1** Number of HIV-infected infants born in Canada adjusted for delay in diagnosis, Ontario, 1984 to 2006

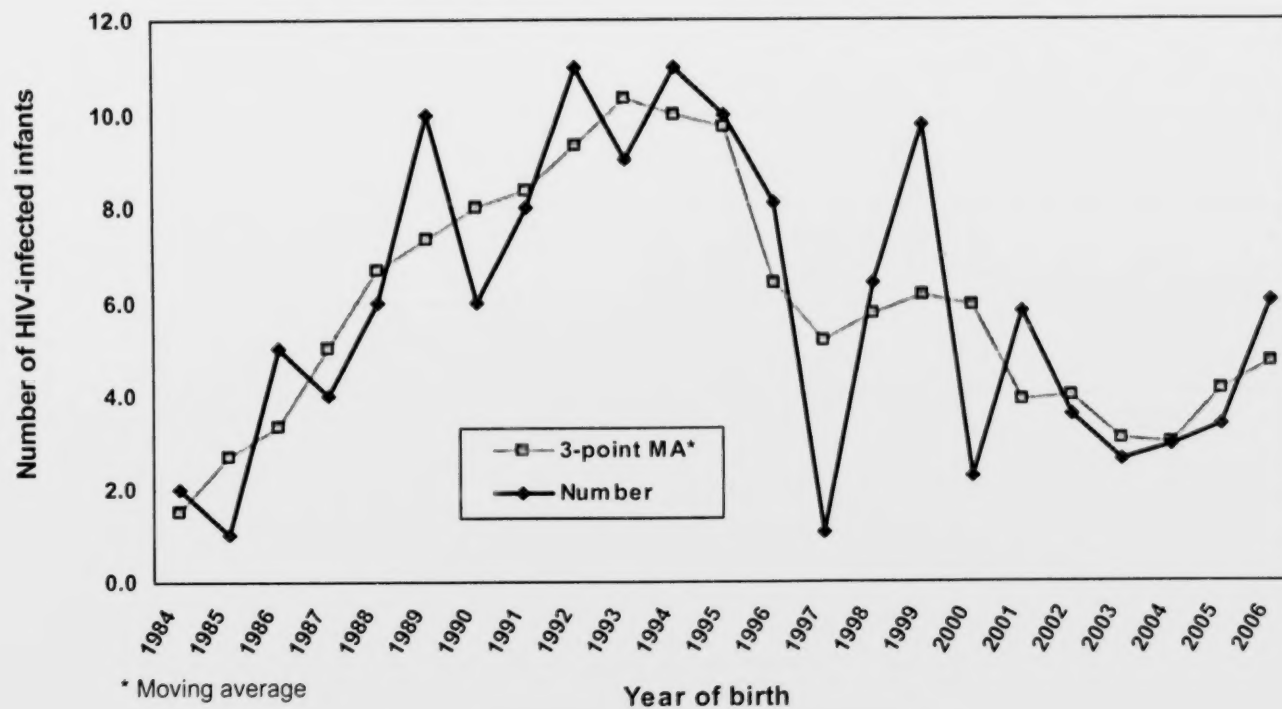
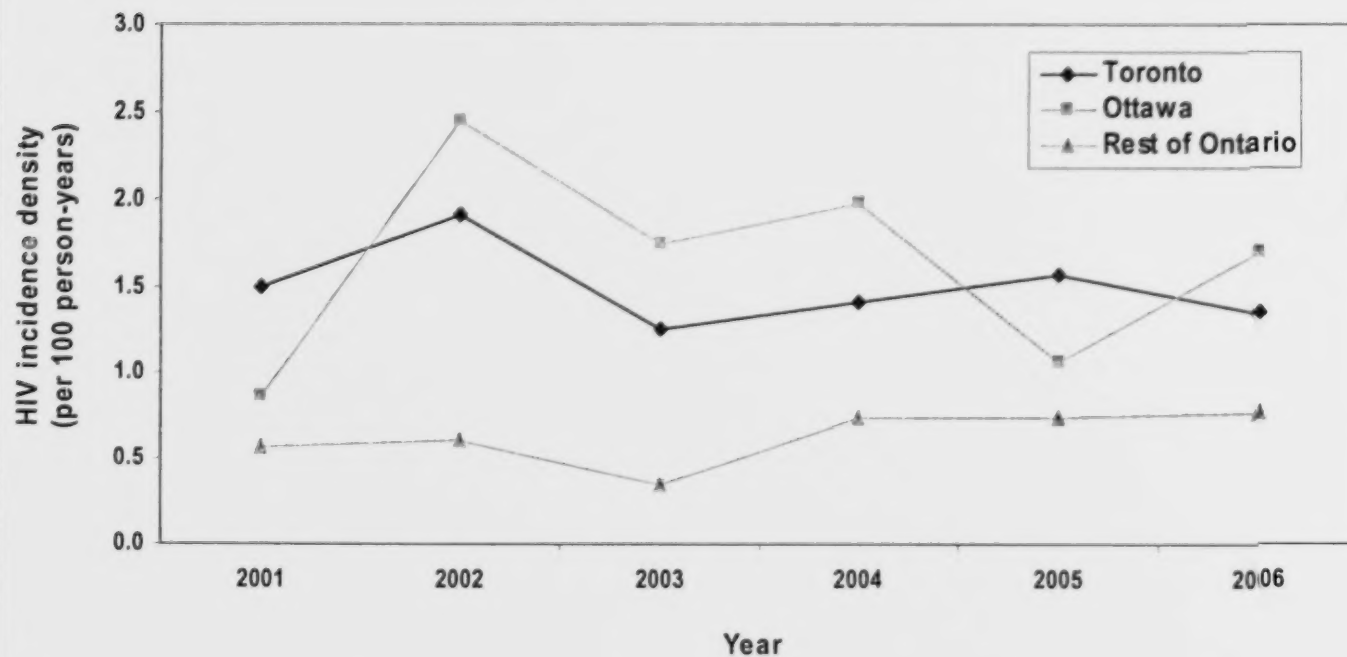


Figure 4.1 HIV-related deaths, Ontario, 1987 to 2005

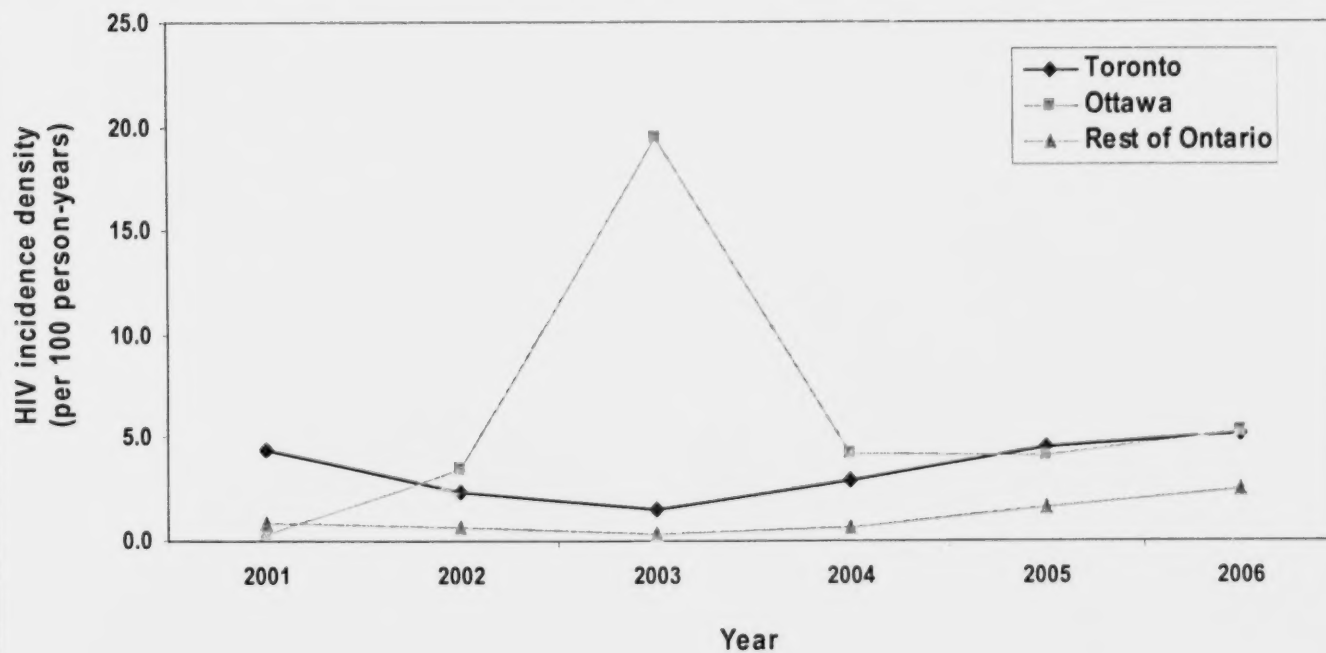


\* Adjusted for the comparability ratio of ICD-10 and ICD-9

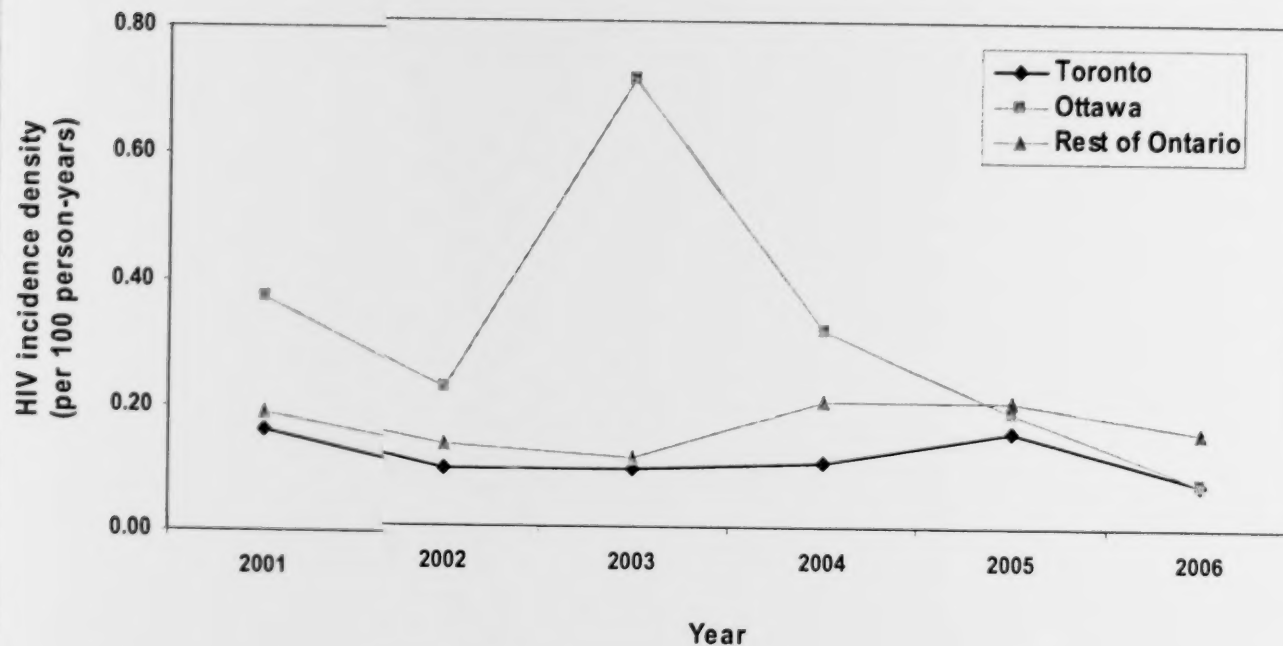
**Figure 5.1 HIV incidence rate (adjusted) among MSM by health region, LES, Ontario, 2001 to 2006**



**Figure 5.2 HIV incidence rate (adjusted) among MSM-IDU by health region, LES, Ontario, 2001 to 2006**

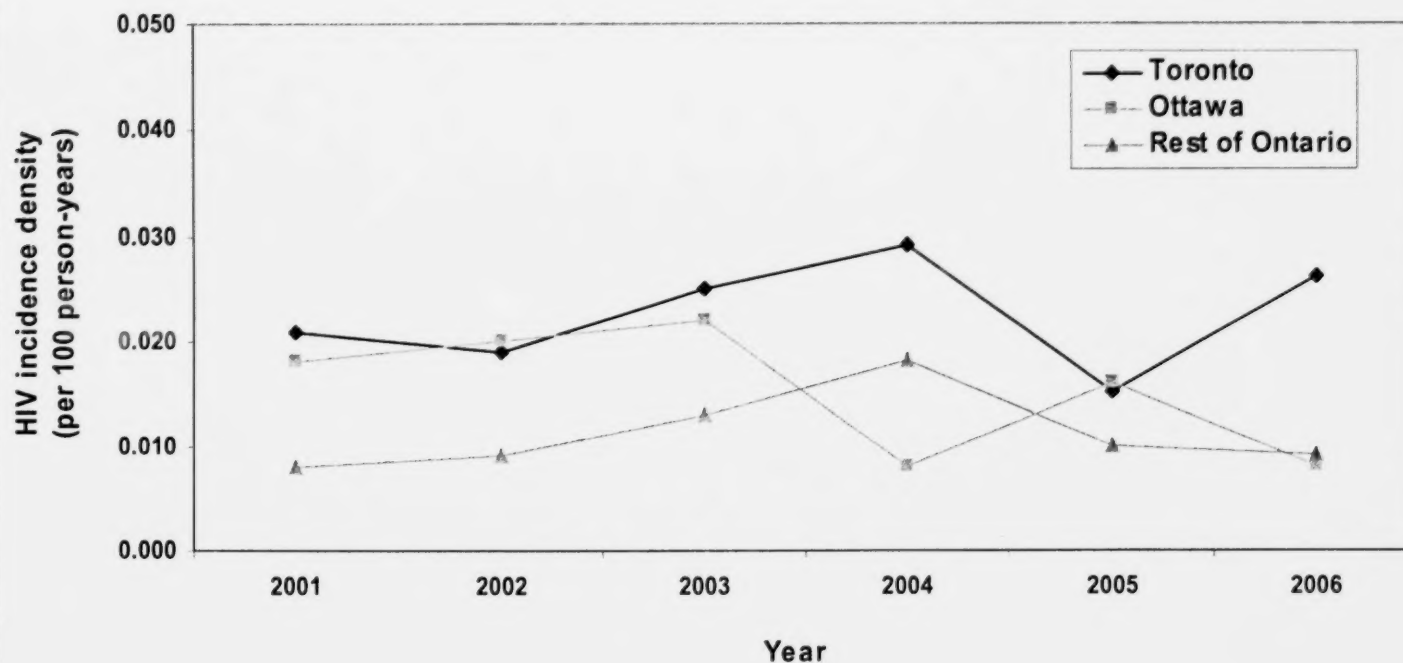


**Figure 5.3 HIV incidence rate (adjusted) among IDU by health region, LES, Ontario, 2001 to 2006**

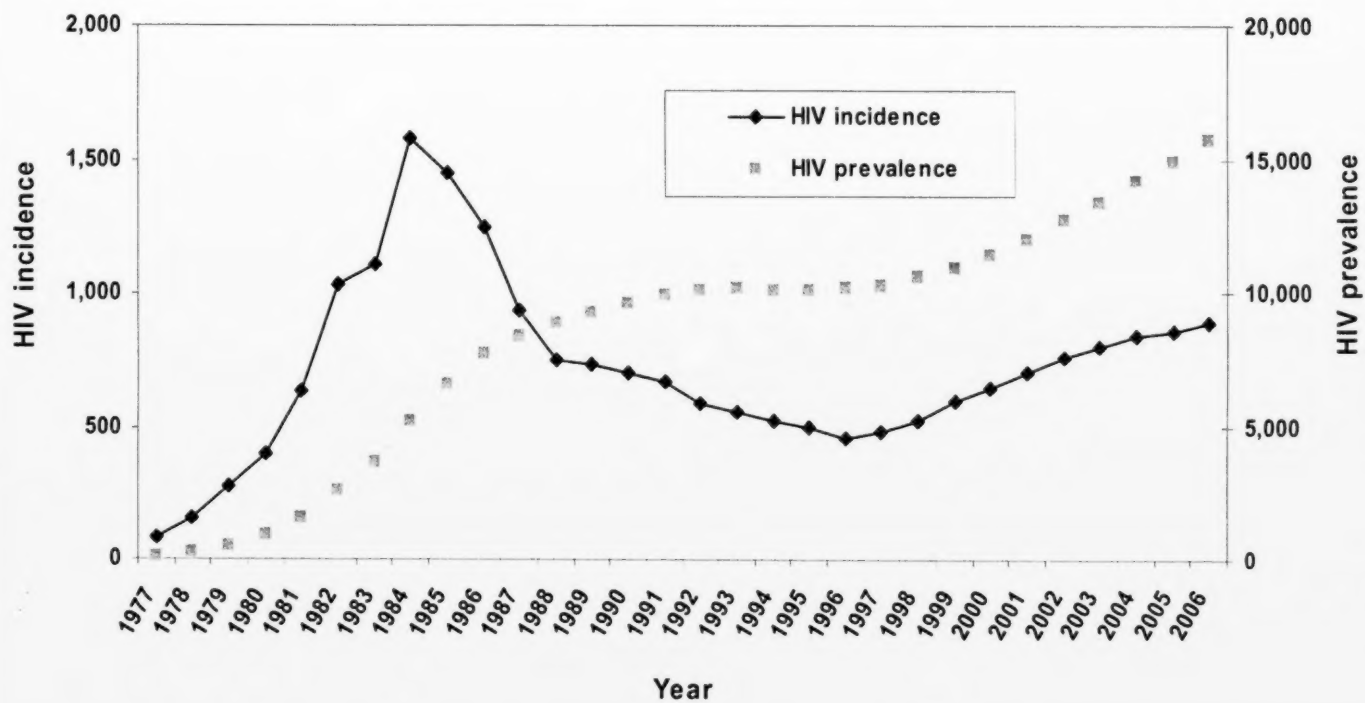




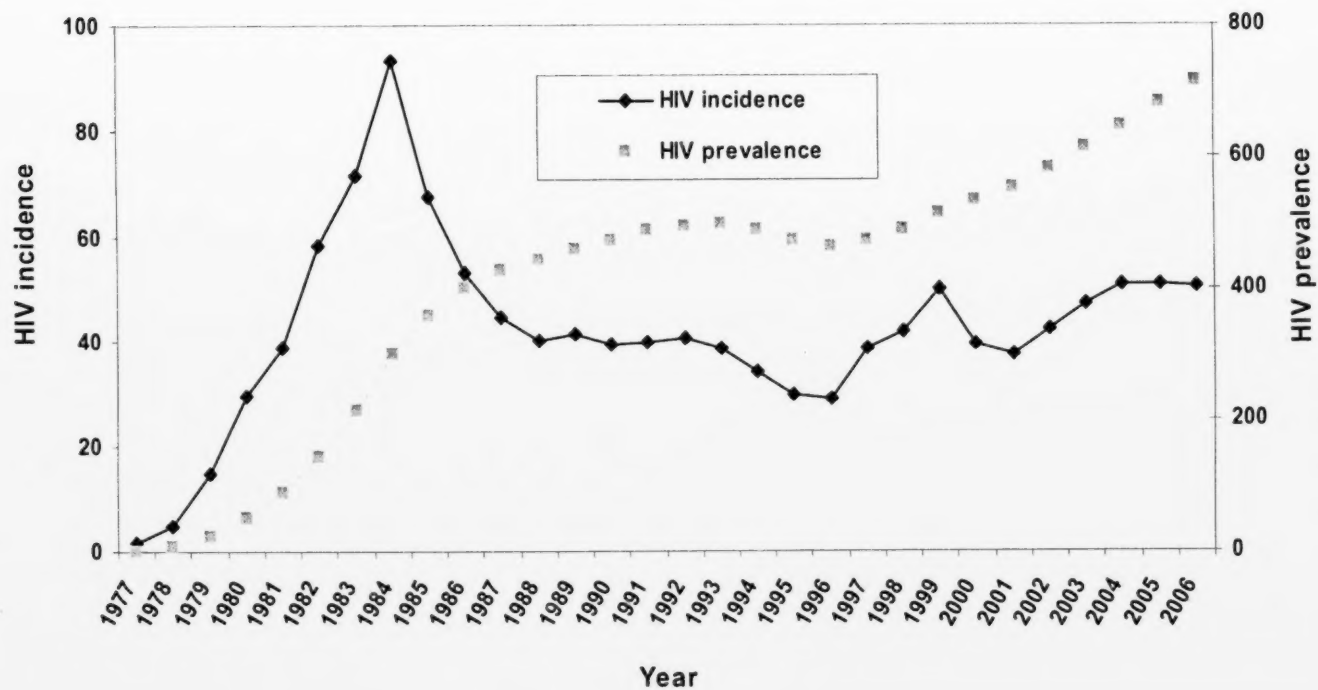
**Figure 5.4 HIV incidence rate (adjusted) among persons infected through heterosexual contact by health region, LES, Ontario, 2001 to 2006**



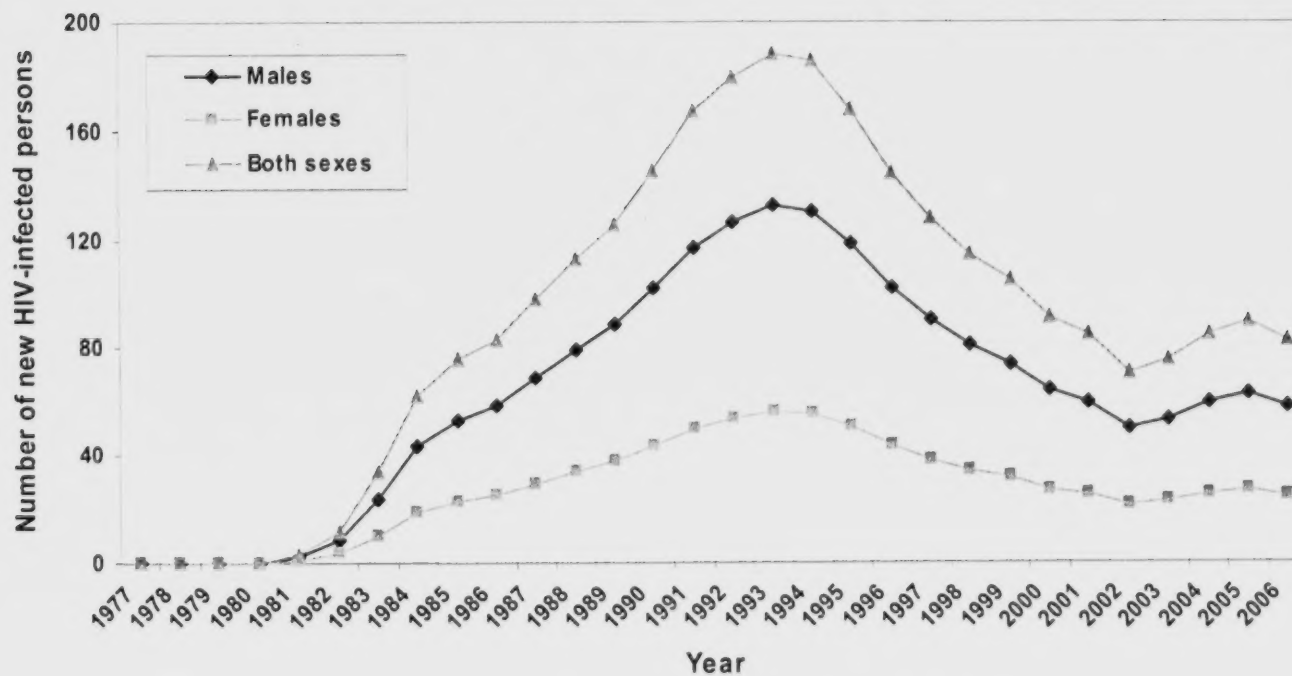
**Figure 6.1 Modeled HIV incidence and prevalence among MSM  
Ontario, 1977 to 2006**



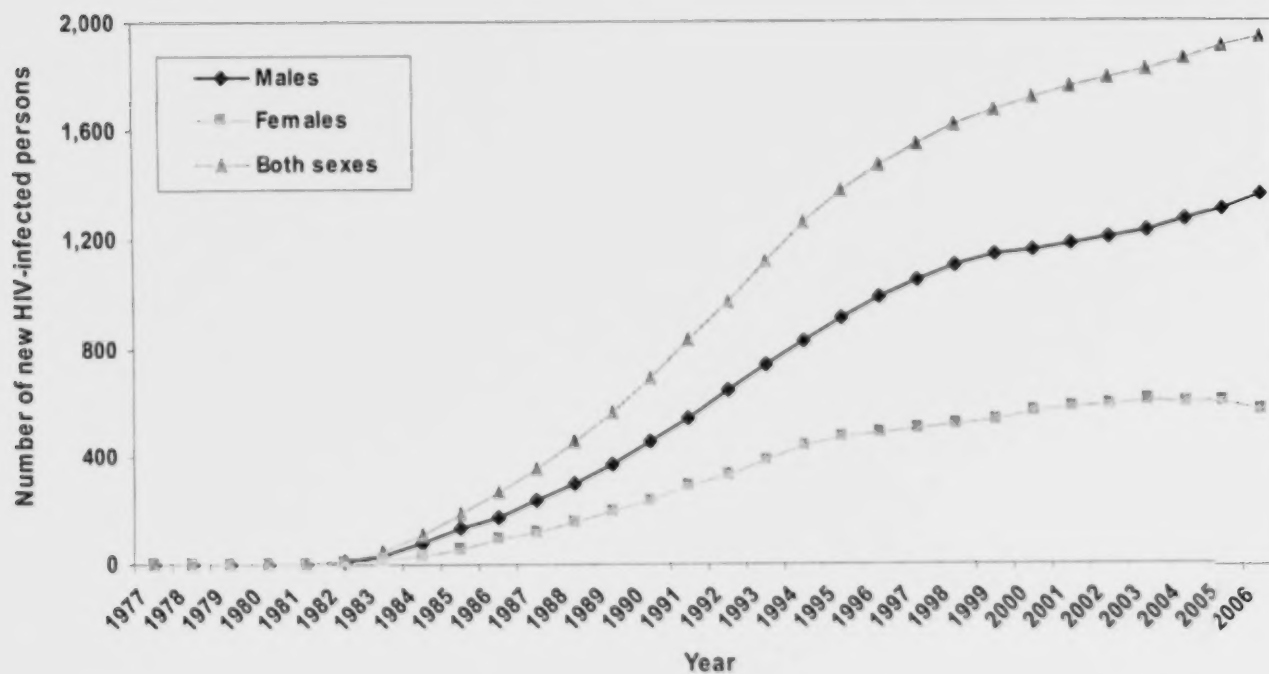
**Figure 6.2 Modeled HIV incidence and prevalence among MSM-IDU  
Ontario, 1977 to 2006**



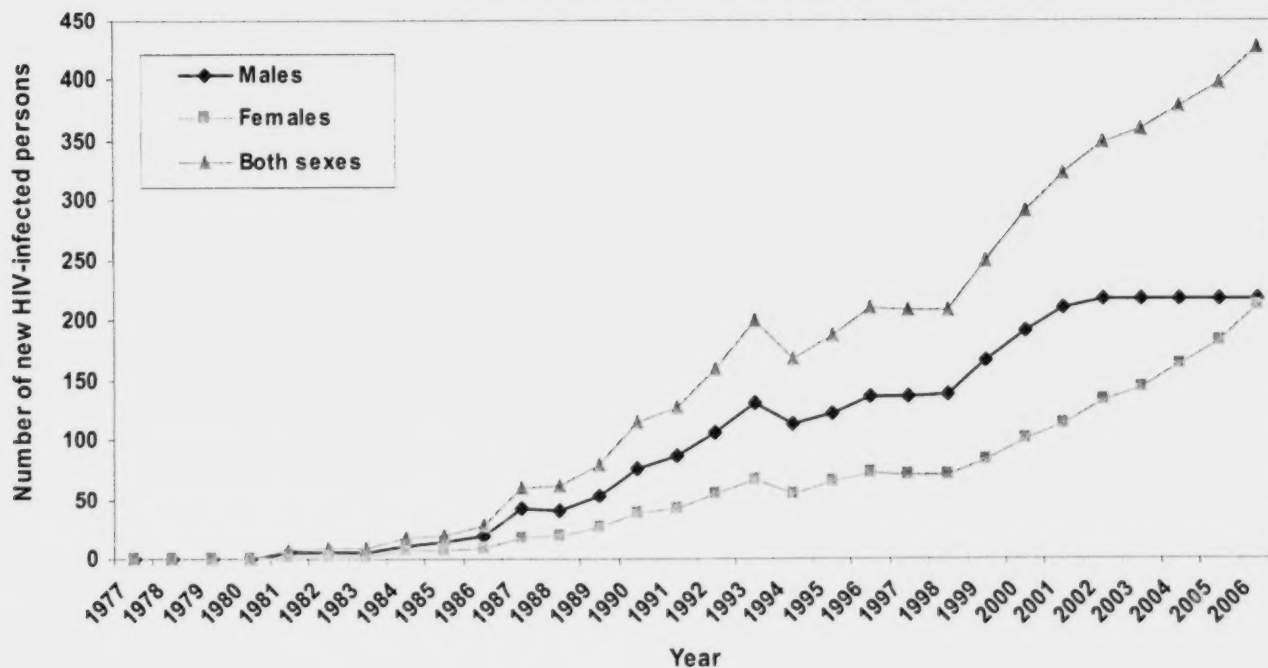
**Figure 6.3 Modeled HIV incidence among IDU, by sex  
Ontario, 1977 to 2006**



**Figure 6.4 Modeled HIV prevalence among IDU, by sex  
Ontario, 1977 to 2006**

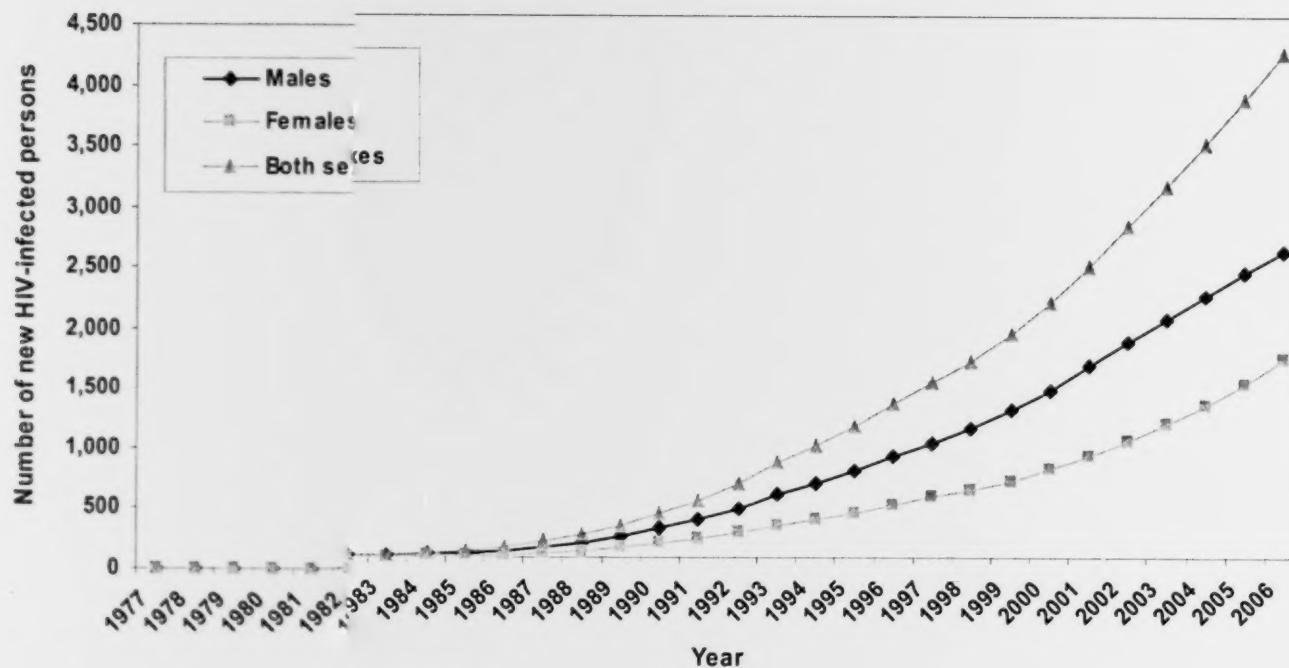


**Figure 6.5 Modeled HIV incidence among persons from HIV-endemic countries, by sex, Ontario, 1977 to 2006**

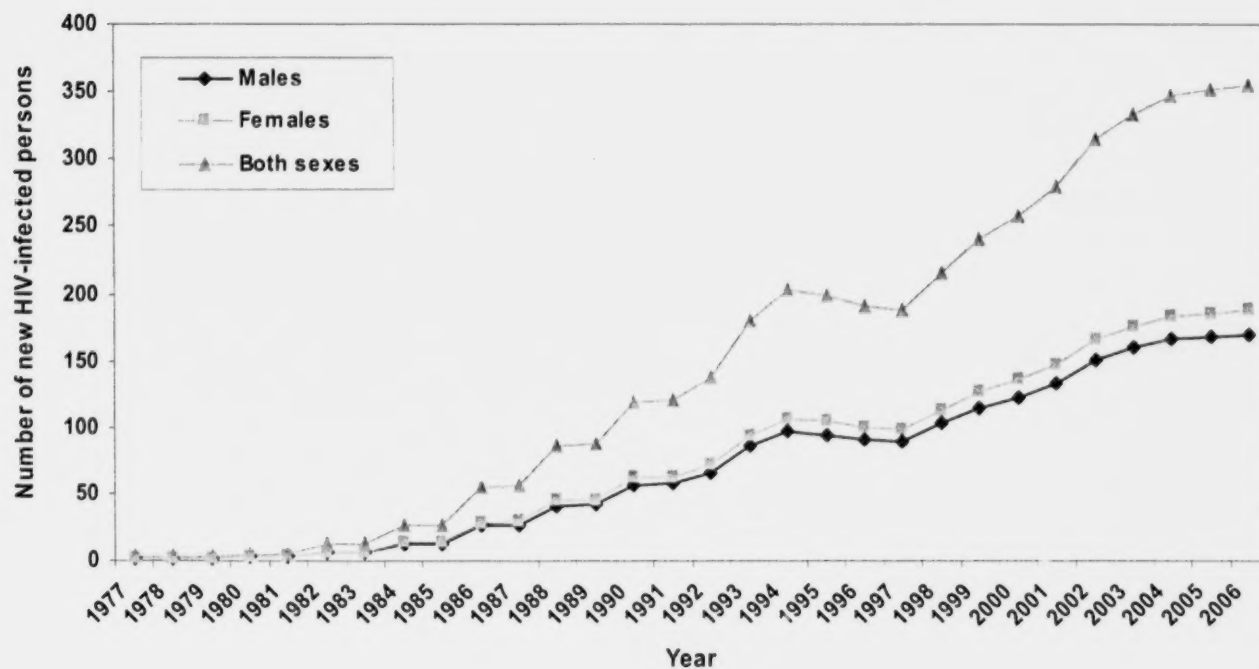




**Figure 6.6** Modeled HIV prevalence among persons from HIV-endemic countries, by sex, Ontario, 1977 to 2006



**Figure 6.7 Modeled HIV incidence among persons infected through heterosexual contact, by sex, Ontario, 1977 to 2006**



**Figure 6.8 Modeled HIV prevalence among persons infected through heterosexual contact, by sex, Ontario, 1977 to 2006**

